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NATIONAL DEFENSE RELATED EMPLOYMENT IN MARYLAND 1965 - 1969

STATE OF MARYLAND
MARVIN MANDEL, GOVERNOR

Publication.

MARYLAND DEPARTMENT OF STATE PLANNING

Vladimir A. Wahbe, Secretary

MAY 1970

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MARYLAND DEPARTMENT OF STATE PLANNING
STATE OFFICE BUILDING
BALTIMORE, MARYLAND 21201

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MARYLAND
DEPARTMENT OF STATE PLANNING

301 WEST PRESTON STREET
BALTIMORE, MARYLAND 21201

TELEPHONE: 301-383-3010

LADIMIR A. WAHBE
TARY OF STATE PLANNING

May 1, 1970

Honorable Marvin Mandel
Governor of Maryland
The State House
Annapolis, Maryland

Dear Governor Mandel:

I am pleased to transmit the enclosed report entitled "National Defense Related Employment in Maryland: 1965-1969." This report was undertaken to provide information on a specific aspect of employment in Maryland, namely that related to expenditures of the Department of Defense. This report is another in the series currently being developed for the State-Wide Planning Program administered by this department.

The report presented herein includes estimates of employment generated directly by prime defense contracts during the Vietnam build-up, 1965 to 1969. These estimates have been prepared to provide statistical information on specific industry group employment at the county level. In addition, civilian Department of Defense employment in Maryland is discussed as a major component of the State's total defense involvement. One important result of the analysis is an assessment of the vulnerability of each of Maryland's counties to reduction in federal defense spending.

Our intention is to identify a potential economic problem and to recommend a possible course of action that the State might pursue on a timely basis. In addition, the information contained in this report should prove useful to the counties in the formulation of their own programs.

Sincerely yours,

Vladimir A. Wahbe

PREFACE

The estimates and analysis of defense-related employment contained in this report represent an effort to develop a further understanding of the economy of Maryland. Since it was felt that the impact of changes in defense expenditures is a phenomenon that directly affects specific industries and relatively small areas, the scope of the analysis includes two-digit industry groups and civilian Department of Defense employment at the county level.

The methodology and analysis provided in the study are intended to serve the reader on two levels. First, the study attempts to treat on an informative level a specific type of employment, that directly related to defense activities during the Vietnam build-up. Secondly, the study supplies the reader with a data base which can be used to deal with problems that arise from changes in defense-related employment. It is hoped that the study will provide insight into the amelioration of these problems at the county level.

Acknowledgment is due to Reginia Seltzer and Harrison Gross for assisting in the data collection process. Martha Vukov and Francis Marchlinus are to be thanked for typing drafts of the report. Dr. Albert R. Miller, Jr. and Arthur Benjamin contributed many valuable comments and criticisms during the preparation of the study.

James T. Jordan, Economist

SUMMARY

The purpose of the study is to assess the vulnerability of the State of Maryland, its regions and counties, to changes in national defense spending. The results of the study are based upon a detailed analysis of changes in employment during the 1965-69 Vietnam build-up associated with prime defense contracts and civilian Department of Defense (DOD) activities. Estimated direct defense related employment amounted to 8.5 percent of Maryland's total employment in 1969, or, approximately 81 thousand workers.

The study disclosed that the annual value of prime defense contracts in Maryland rose from approximately 584 million dollars in 1965 to a peak of 868 million dollars in 1967. The 1968 and 1969 data indicate that the annual value of prime defense contracts has fallen below the peak year by more than 100 million dollars. In addition, it was found that the most important industries in the State, in terms of direct prime defense contract employment, were electrical machinery, ordnance and accessories, non-electrical machinery and research and development.

The results of the study clearly show that defense-related employment is heavily concentrated in certain counties and relatively absent in others. On the Eastern Shore, for example, prime defense contract employment was found to be exceedingly low and civilian DOD employment non-existent. Essentially the same situation was found in the two extreme western counties of the State, Allegany and Garrett, and in Calvert, Carroll and Howard Counties. Little direct impact from any reduction in defense expenditures is thus predicted for any of this group of counties.

The primary concentration of defense-related employment extends from the Baltimore Metropolitan region to the Washington Metropolitan area. The Baltimore area is the heaviest prime defense contract employer. A major portion of the contracts awarded in the area are related to manufacturing. In Montgomery County and in Prince George's County, particularly in the former, research and development activities and electrical machinery production make up the bulk of the prime defense contract employment.

In order to more clearly understand the nature of these concentrations at the county level, a distinction has been made between the significance of employment directly generated by prime defense contracts and civilian DOD employment. The study takes into account the fact that under favorable circumstances prime defense contracts may be replaced with civilian contracts, thereby minimizing the effects of defense expenditure cutbacks, whereas the Department of Defense cannot as a general rule offer to its civilian employees the same option in the face of overall cutbacks in the national defense budget. For these reasons, as well as others discussed in the study, civilian DOD employment is felt to present a more complex adjustment problem than employment generated by prime defense contracts.

The Statewide distribution of civilian DOD employment differs somewhat from the locational pattern of prime defense contracts. Although civilian DOD employment is found in the Baltimore-Washington corridor, it is also present in Harford, Charles, St. Mary's, Frederick and Washington Counties. Because defense-related employment comprised only a very small percentage of local overall employment, the study accorded to Baltimore City a low vulnerability rating to cutbacks in defense spending along

with those counties where the absolute level of defense-related employment was found to be minimal.

A major cutback in defense spending would have only a moderate direct economic impact, with some adjustment difficulties, in Cecil, Frederick, Prince George's and Washington Counties, where the percent of county total employment related to defense ranged from 3.8 percent to 14.4 percent. Baltimore and Montgomery counties, which experienced exceptionally low unemployment rates during the period, would fare even better. Characteristically, all these counties had workers employed both in firms with prime defense contracts and in Department of Defense installations.

Charles, St. Mary's and Harford Counties, with more than 40 percent of their employed workers involved in defense activities, were found to be at the opposite end of the spectrum. Since this percentage reflects largely civilian DOD employment, the counties would thus be expected to encounter substantial readjustment difficulties in the event of a major cutback in defense spending. While Anne Arundel County also has a significant percentage of its employed workers engaged in defense activities (approximately 30 percent), the county's extremely low unemployment rate recorded for recent years strongly suggests that this county would experience a lesser problem of readjustment.

I. INTRODUCTION

Within the complex intertwinings of our economy, both at the national and state levels, it is usually difficult to sort out one specific factor which serves as a contributor to the overall economy. A notable exception to this is the economic activity generated as a result of the Department of Defense operations and expenditures.

The purpose of this study is to examine the changes in employment due to Department of Defense expenditures in Maryland during the period 1965 to 1969. Specifically, this study calls attention to the incidence of expenditures and employment for prime defense contracts of $10,000 or more.*

The time span chosen for the study, 1965 to 1969, coincides with the readily observable build-up of military activities in Vietnam. The year 1965 was taken as the base year for the analysis, since significant changes in defense spending in Maryland were reported in the following years. For example, from 1965 to 1966 the amount of money awarded in Maryland for prime defense contracts (Table I-1) jumped by over $250 million. The causes for this surge in Department of Defense spending in Maryland are closely linked to the United States' increased commitment in Vietnam.

---

* A prime defense contract is defined as a contract awarded by the Department of Defense to a firm for goods or services rendered.

TABLE I-1

NET VALUE OF MILITARY PRIME CONTRACT AWARDS OF $10,000 OR MORE

1964	$547,936,000
1965	$584,333,000
1966	$842,527,000
1967	$868,396,000
1968	$703,514,000
1969	$733,609,000

In examining the impact of changes in defense spending in Maryland, the following questions were pursued:

(1) What industries tend to be most affected by cuts in defense spending?

(2) Where (within what region or county) do changes in the level of defense-oriented expenditures appear likely to have (or have had) the greatest economic impact in terms of their effect upon employment?

Clearly the two questions are interrelated. The problem of localization of certain types of defense industries necessitates a simultaneous analysis of questions (1) and (2). Similarly, the rate at which defense expenditures are reduced will determine, to some extent, an area's ability to attract financial resources and industries to replace those lost as a result of defense cuts. The latter relationship points up the need for the analysis of potential regional problems as a background to economic assistance planning and policy considerations.

We must keep in mind that not only are the people directly involved in a defense industry affected by a defense budget cut, but also people in other industries and the service sectors who earn a portion of their income from the defense industries and their personnel.

However, the scope of this report is limited to include only estimations of persons employed as a result of prime defense contracts and the civilians in Maryland employed directly by the Department of Defense. No attempt is made to estimate the number of persons who are affected indirectly by changes in the amount of defense spending in Maryland.

Just as defense expenditures in Maryland increased as the United States experienced growing involvement in Vietnam, we can expect a reversal of the trend to occur as the Vietnam situation is resolved. In fact, a peak in defense spending in Maryland was reached in 1967, and a downward trend has already begun (Table I-1). If further decreases in defense procurement expenditures occur, a greater portion of the Maryland economy and labor force will be affected.

The State should be aware of potential problems that can develop as a result of declining defense expenditures. Initially, problems and problem areas need to be identified. Alternative solutions to the recognized issues must be explored and an appropriate response strategy formulated. Finally, the State must play an integral part in coordinating efforts to assure maximum rates of economic growth and prosperity throughout the State.

The underlying purpose of the research is to assist decision-making bodies within government to more fully understand the nature of a potential economic problem. To this end, the goal of the study will be to provide information useful for the consideration of planning strategies.

II. BACKGROUND STUDIES

The effect and impact of defense spending has received the attention of several federal organizations.

The Department of Defense has exhibited concern for the changing pattern of its expenditures, both in terms of types of products purchased and locations affected by its purchases. The Department publishes information pertaining to the location of prime contractors and the size of the prime contracts they are granted each year.

A second effort of the Department of Defense has been to establish an Economic Information Survey (EIS) to estimate the number of persons affected by defense spending. One example of their work has been the development of an index, termed the defense dependency ratio, to measure the reliance of a state's labor force on defense employment (Table II-1). Although the ratio probably grossly underestimates actual state dependency, at least it provides a rough indication of a state's defense disposition relative to other states. It also supplies a starting point for developing more explicit information about Maryland's involvement in the defense production effort.

TABLE II-1

DEFENSE DEPENDENCY RATIO (DEFENSE-GENERATED EMPLOYMENT AS A PROPORTION OF TOTAL CIVILIAN WORK FORCE)*

	June 1965	Dec. 1965	June 1966	Dec. 1966	June 1967	Dec. 1967	June 1968
Utah	7.6	8.4	9.9	9.7	9.9	9.2	8.9
California	4.9	5.2	5.5	6.1	6.5	6.3	6.2
Maryland	5.6	5.8	6.4	6.6	6.9	6.6	6.2
N. Hampshire	4.5	4.7	5.0	5.6	6.3	6.6	6.2
Rhode Island	3.7	3.6	3.7	4.6	5.3	5.4	4.4

* Business Week: "War Work Payrolls Start Heading Down," (June 14, 1969), P. 135.

Table II-1 reveals that Maryland's defense dependency ratio increased from June, 1965, to a peak in June, 1967, and then started to decline. Although data is not available, we expect that the defense dependency ratio has continued to decline. Furthermore, we can expect an even sharper decline in the ratio to occur as a result of an abatement of hostilities in Vietnam and/or overall reductions in defense spending.

The U. S. Arms Control and Disarmament Agency (ACDA) has approached the question of a reduction of federal defense expenditures from a different standpoint. The ACDA emphasizes an evaluation and subsequent planning and action to take place at the community level. Accordingly, each community should assess its level of involvement in defense production and devise measures, using primarily its own resources, to counteract and readjust to decreases in defense spending.

If a community information system, such as that formulated by the ACDA, is to be used, planning at the State level would be necessary to initiate such a program with any meaningful effectiveness. A state-wide effort is essential to cope with the types of problems that can result from a decrease in defense spending within the State.

In addition, the literature suggests that two different, yet hopefully, complementary, types of action can be used in finding a solution to economic problems caused by defense cuts. First, defense-dependent firms can attempt to maintain their present level of economic activity by acquiring new defense contracts or by developing new products and/or markets. Less defense-oriented firms will find branching into new product and consumer areas relatively easy. On the other hand, more specialized companies may have to compete for a larger share

of the remaining defense budget. Logically, any profit-oriented industry will seek out market alternatives suitable to their present and projected production capabilities. For example, electronics and missile producing firms will predictably look to our expanding aerospace research for new markets.

Evidence exists to indicate that industry is taking measures to absorb the shock of defense spending cuts. The electronics industry is a case in point. A survey of electronic concerns by the Battelle Memorial Institute* showed that over 80 percent of the firms contacted had either attempted or planned to attempt to diversify output to capture other markets. Less popular strategies among the firms polled were to find new fields for research or to attempt to capture a larger share of the defense market.

A second type of action, or reaction to defense spending cuts, should occur through planned government programs. Federal programs do exist to assist in training or retraining unemployed laborers. Federal funds could also be requested for public works projects. Projects could be selected which would not only stimulate a short-run boost to a local depressed economy by, at the least, employing local labor, but would also make the location a situation for long-run self-sustained economic growth.

* Charles S. Peet and Richard J. Bengston. "Reduced Defense Spending and the Electronics Industry," Battelle Technical Review. (May, 1966), pp. 12-17.

III. MARYLAND'S ROLE IN FEDERAL DEFENSE ACTIVITIES

A good indicator of Maryland's involvement in the Nation's defense effort is the amount of money allocated to the State through military prime contract awards (Table III-1). Maryland's portion of prime contracts went from 1.9 percent of the Nation's total in 1962 to a high point of 2.7 percent of the total in 1966. Since 1966, the Free State's share of prime contracts dropped back to 1.9 percent in 1968 but slightly increased in 1969. We should remember that the National defense budget has steadily increased from 1962 to 1969. Consequently, 1.9 percent of the Nation's military prime contracts in 1968 included about $234,023,000 more than a similar share in 1962.*

TABLE III-1

NET VALUE OF MILITARY PRIME CONTRACT AWARDS OF $10,000 OR MORE IN MARYLAND

Fiscal Year	Value (in thousands)	Percent of U. S. Total
1962	$469,491	1.9
1963	$606,365	2.4
1964	$547,936	2.3
1965	$584,333	2.5
1966	$842,527	2.7
1967	$868,396	2.3
1968	$703,514	1.9
1969	$733,609	2.1

It is interesting to note that, while Maryland had 1.9 percent of the prime military contracts in 1968, the State also accounted for 1.9 percent of the Nation's population. This fact suggests that Maryland is not overly committed to defense spending with respect to per capita involvement. As was noted above, the 1.9 percent share of

* It is not intended that the reader should infer that "1.9 percent" is some sort of a "baselevel" figure. Rather, one should realize that Maryland has been, at the least, a consistent defense producer and that the State has been successful in attracting war-time contracts to its industrial complex.

contracts in 1962 represents a smaller figure, both in terms of contract value and employment, than a share of 1.9 percent in 1968.

Information is also available on the general nature of military prime contracts awarded within Maryland (Table III-2). In the examination of Table III-2, one should note specific types of products procured in Maryland that account for a relatively large percentage of the total national procurement of the item, products that comprise a large part (in terms of dollar value) of Maryland's defense effort, and products that have significantly decreased or increased in importance during the main Vietnam War period (1965 to 1969). The following discussion is based on Table III-2.

a. Missiles and Space Systems and Electronics and Communications Equipment

By far the most important items procured in Maryland in terms of dollar value of prime contracts are missile and space systems and electronic and communications equipment. Together, they consisted of slightly less than 49 percent of the total value of the State's 1969 prime defense contracts. Note that from 1967 to 1968 the value of prime defense for these two product groups dropped by more than $150 million.

Both industries, though likely to experience short-run fluctuations in production, seem to be in the forefront of America's progress in the long run. In addition, the highly skilled labor common to these industries would likely find new employment with comparative ease, should a dramatic slump in missile and electronics procurements occur.

b. Services

While prime contracts in Maryland for services have steadily decreased percentagewise during the Vietnam War period except for 1969, their dollar value has increased. As a portion of Maryland's share

TABLE III-2

NET VALUE OF MILITARY PRIME CONTRACT AWARDS OF $10,000 OR MORE IN MARYLAND BY PROCUREMENT PROGRAM*
(THOUSANDS)

PROCUREMENT PROGRAM	Fiscal Year 1965 Value	% of U.S.	Fiscal Year 1966 Value	% of U.S.	Fiscal Year 1967 Value	% of U.S.	Fiscal Year 1968 Value	% of U.S.	Fiscal Year 1969 Value	% of U.S.
Missile and Space Systems	171,347	3.9	193,295	4.5	121,254	2.7	111,228	2.2	99,056	1.8
Electronics and Communication Equipment	181,469	6.1	271,167	7.2	390,645	8.9	236,812	6.0	258,048	6.4
Services	69,013	3.3	64,264	2.5	74,335	2.2	75,924	2.1	83,637	2.5
Airframes and Related Assemblies and Spares	7,856	0.2	25,668	0.6	22,953	0.3	20,438	0.3	84,469	1.7
Aircraft Engines and Related Spares	93		369		1,121	0.1	620		636	
Other Aircraft Equipment and Supplies	6,427	1.0	18,814	1.8	30,236	2.4	31,294	2.8	29,339	2.5
Ships	45,174	2.5	67,286	4.8	33,958	1.6	38,131	1.9	33,061	2.1
Combat Vehicles	395	0.1	1,277	0.2	367	0.1	529	.1	535	.1
Non-Combat Vehicles	4,380	0.8	23,300	2.4	12,092	1.5	33,764	4.1	11,610	2.1
Transportation Equipment		0.0		0.0		0.0		0.0		

Construction	29,712	2.3	44,202	4.4	51,124	4.4	50,592	4.2	37,827	2.9
Construction Equipment	24	0.0	34	0.0	16	0.0	374	.2	111	.1
Military Building Supplies	273	1.0	20,400	5.7	1,451	0.9	13,235	5.8	587	.5
Medical and Dental Supplies and Equipment	1,339	1.2	3,343	1.6	2,747	1.5	1,945	1.0	1,403	.8
Photographic Equipment and Supplies	779	0.8	1,306	0.8	2,748	1.7	1,297	1.0	2,153	1.7
Materials Handling Equipment	78	0.2	2,930	2.8	182	0.2	2,842	3.0	425	.5
All Other Supplies and Equipment	19,031	2.5	21,806	1.6	26,446	1.6	25,390	2.0	19,704	2.1
Petroleum	2,971	0.4	3,348	0.4	3,419	0.4	5,975	.5	4,597	.4
Other Fuels and Lubricants		0.0		0.0	19	0.1	26	.1		0.0
Separately Procured Containers and Handling Equipment		0.0		0.0		0.0	28	.7		0.0
Textiles, Clothing and Equipage	2,298	0.6	18,192	1.4	24,556	2.1	3,148	.4	6,117	1.0
Production Equipment	489	0.8	1,639	0.9	2,385	1.2	1,582	.9	244	.2
Weapons	6,174	2.0	4,457	0.9	6,780	1.1	9,287	1.4	12,529	2.0
Ammunition	21,172	2.7	38,234	1.3	42,082	1.2	22,524	.5	28,613	.6
Subsistence	13,839	2.1	17,196	1.7	17,480	1.6	16,529	1.5	16,600	1.5
Total	584,333	2.5	842,527	2.7	868,396	2.3	703,514	1.9	731,301	2.1

* From: Office of the Secretary of Defense, Directorate for Statistical Services. Military Prime Contract Awards by State and Region: Fiscal Years 1962-1967 and 1967-1969.

of defense contracts, services have remained relatively close to 10 percent. With any slackening off of hostilities in Vietnam we might expect a decrease in the manpower, both military and civilian, at military installations in Maryland. Consequently, decreases in the demand for related services are foreseeable.* Some cutbacks in civilian employment had already been announced in late 1969 by Secretary of Defense Laird.

c. Transportation

Maryland's transportation-related industries are involved in several Department of Defense procurement programs. Items produced for defense range from ships and combat vehicles to aircraft engines and accessories and non-combat vehicles. In 1968, well over one hundred million dollars was allocated to transportation-related manufacturing. A large share of these funds went to the complex of industries engaged in some aspect of aircraft production. The ship-building and repair industry, as well as the manufacturing of non-combat vehicles, is a major contributor to Maryland's total defense effort.

Growth, particularly in maritime transportation activities, should be expected as more new shipbuilding contracts, such as giant tanker construction, are attracted. Current efforts to develop container handling facilities at the Baltimore Harbor, as well as a proposed deepening of harbor channels for larger ships, should also have a favorable impact on the transportation industries.

* The Washington Post. As an example see, "Defense Jobs Drop Rapidly," January 10, 1970. A reduction of 1,232 civilian DOD jobs was announced.

d. Building and construction

Prime contracts for construction, particularly on military installations, have increased significantly from 1965 to 1969. A reversal in this trend occurred in 1969. Since the activity at military installations in Maryland can be expected to drop following a contraction of hostilities in Vietnam, a continued fall-off in construction operations may logically result. Likewise, a decrease in procurement of military building supplies can be anticipated.

e. Other procurement programs

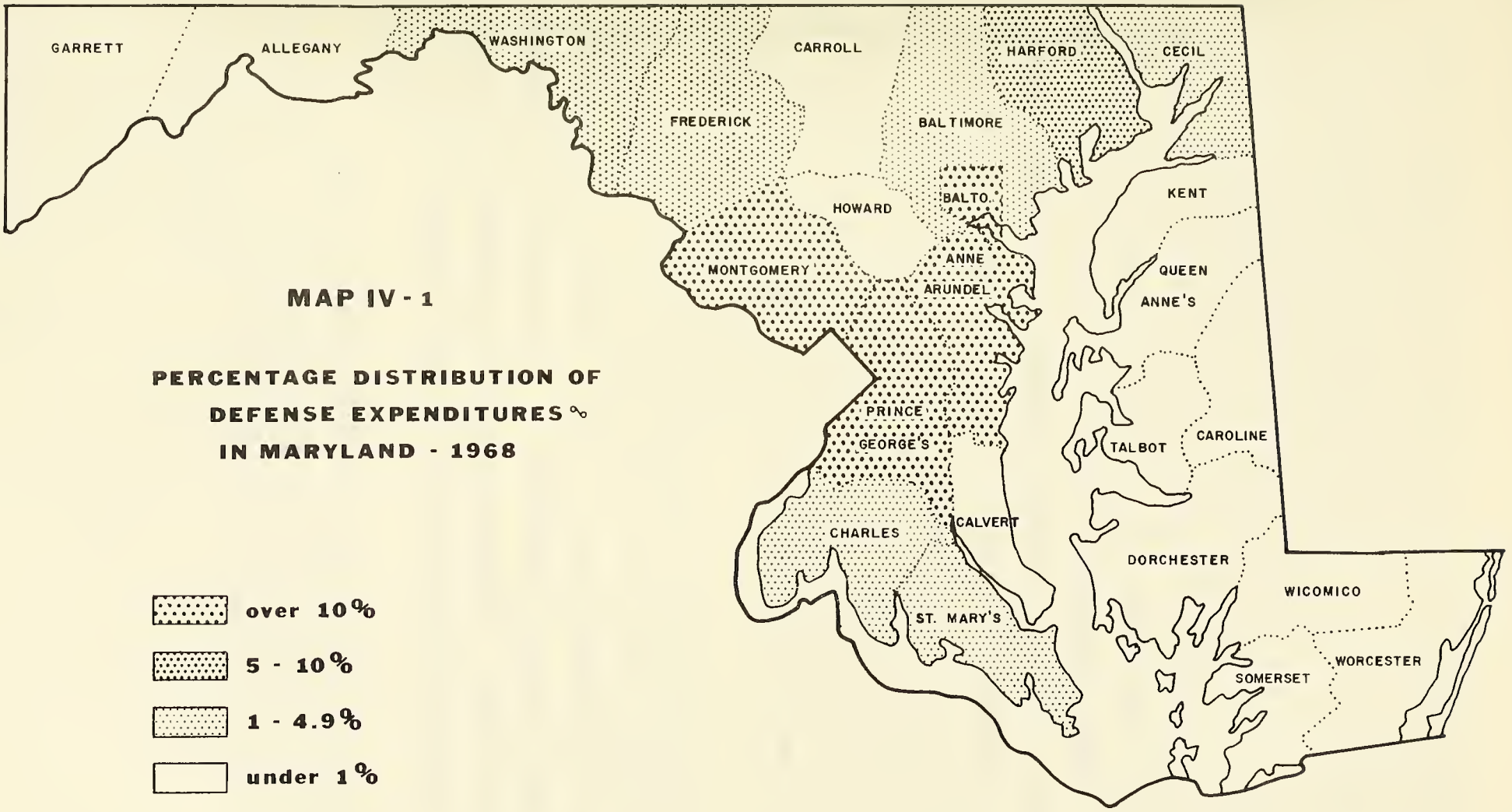
In general, declines in procurement of commodities needed to support a large military force should accompany a successful Vietnamization program. A healthy, growing economy should be able to offset most of the financial losses caused by predicted lapses in prime contracts for commodities occupying a small portion of Maryland's total prime defense contracts.

IV. THE GEOGRAPHICAL INCIDENCE OF DEFENSE GENERATED ACTIVITY WITHIN MARYLAND

In 1968, almost 72 percent of the Department of Defense expenditures in Maryland (excluding Military and National Guard wages and salaries and Military Retirement pay) occurred within three counties, Montgomery County, Anne Arundel County and Prince George's County, and Baltimore City. The remaining 28 percent of defense expenditures, have an apparent geographical pattern in their location throughout the other 20 counties. Generally speaking, defense expenditures are lowest in the peripheral parts of the State and tend to increase as proximity to the Baltimore and Washington activity hubs increases (Map IV-a). The geographical arrangement of expenditures indicates a fairly strong north-south trend through the Baltimore-Washington agglomeration, or metropolitan complex. Conversely, the far western and extreme eastern (Eastern Shore) counties rank lowest as groups in amount of defense contracts.

The proximity of defense production to the major urban areas of Baltimore and Washington should be considered as a favorable factor for the probable readjustment displaced workers will need to make. In the close-in counties the displaced worker will in many cases be able to extend or alter his daily journey to work to take advantage of metropolitan employment opportunities.

In order to estimate the impact of defense expenditures on each county, some measure of the size of each county's economy is necessary. If the economy of a county is well developed in terms of the amount of overall employment created within it, greater cuts in defense spending could be absorbed than if economic activity within the county was limited. Equal importance should be attached to each



% Excluding military and National Guard wages and salaries, and military retirement pay.

county's industrial diversification, and the level of prime defense contracts distributed within the industrial base. As a rule of thumb, the more diversified the industrial base, the greater the economy's ability to respond favorably to changes in product demand.

A rather favorable relationship can be said to exist between county levels of employment and the value of the defense expenditures allocated to each county. Furthermore, we can infer that defense expenditures are not highly concentrated relative to any county's employment force, that is, there are not extreme variations in the value of contracts per worker throughout the counties and Baltimore City.

Since defense expenditures do seem to be fairly well-distributed throughout the State by at least one criterion (employment), we should next examine the structure or industrial character of that indicator. The distribution of employment by region for each 2-digit SIC group is shown in Table IV-1.

The most evident observation that can be made from Table IV-1 is that Region I is the dominant area for every class of industrial activity found in Maryland. Region III, which ranks second in overall employment, is relatively void of manufacturing activities (except printing and publishing and electrical equipment). Region III seems particularly disposed to wholesale and retail trade and technical services.

Region II, Western Maryland, appears to have consistently even shares of the non-manufacturing industries; however, concentrations of State employment by industry are apparent in several manufacturing industries.

Region IV, Southern Maryland, is relatively devoid of manufacturing, but has a fairly evenly mixed distribution of employment in trade and services although each industry is small.

The Eastern Shore, Region V, employs a significant proportion of the State's agricultural processing workers. Apparel and the manufacture of fabric products are also well represented in the Region.

Cecil County, the sixth region, has very small shares of each industry. The fact that Region VI is the smallest areal unit of the six regions in part helps to explain why its employment allotments are so small.

TABLE IV-1

PERCENT OF MARYLAND EMPLOYMENT BY SIC GROUP WITHIN EACH REGION

	I	II	III	IV	V	VI
Contract Construction (SIC 15-17)	52.8	6.6	32.9	1.8	4.8	1.1
Manufacturing						
19 Ord. & Acces.	98.5	0.0	0.0	0.0	0.0	1.5
20 Food & Kind. Prod.	58.5	5.3	5.5	1.0	29.5	0.2
23 Apparel & Fin. Prod.	70.5	14.4	0.0	0.0	13.2	1.9
27 Prtg., Pub., etc.	69.2	7.5	14.4	0.5	8.0	0.4
28 Chemicals, etc.	64.9	21.1	7.1	0.0	1.1	5.8
30 Rub. & Misc. Plas.	67.8	29.8	0.7	0.0	0.0	1.7
33 Primary Metals	98.5	0.9	0.3	0.0	0.3	0.0
34 Fab. Metal Prod.	81.3	6.7	7.3	0.0	4.6	0.1
35 Mach. except Elec.	81.3	9.2	3.1	0.0	6.0	0.4
36 Elec. Mach.	76.2	3.3	14.7	0.2	2.4	3.2
37 Transp. Equip.	61.4	26.4	6.8	0.2	2.4	2.8
Transportation, Communication, Electricity, Gas & Sanitary Service (SIC 40-49)	72.4	7.2	11.9	1.6	6.0	0.9
Wholesale Trade (SIC 50)	75.5	5.2	12.7	1.6	4.6	0.4
Retail Trade (SIC 52-59)	56.2	6.5	29.8	2.0	4.7	0.8
Finance, Insurance and Real Estate (SIC 60-67)	65.8	4.2	25.9	0.8	2.9	0.4
Services (SIC 70-89)	54.9	4.9	35.3	1.4	3.1	0.4
Total	65.6	7.9	19.0	1.2	5.4	0.9

V. ESTIMATING DEFENSE GENERATED EMPLOYMENT IN MARYLAND: 1965-1969

In order to more explicitly determine the nature and intensity of Maryland's production for the defense effort of the Nation, data more refined than simply broad, state-wide statistics were sought. Information from the Department of Defense, listing every prime defense contractor (for contracts over $10,000) in the State and the annual value of their contracts, was available for the 1965 to 1969 study period.*

Contract lists for the State of Maryland were examined, and each individual contractor was assigned to the appropriate 2-digit Standard Industrial Classification (SIC) group. The contracts awarded in each county** were then aggregated by SIC group.

A more meaningful set of statistics than actual value of prime defense contracts is the quantity of Maryland's human resources involved in defense production, i.e., the number of persons the prime defense contracts employed. The employment resulting from prime defense contracts will be referred to in the remainder of the text as "defense generated employment."

In order to transform contract values into employment figures, a conversion measure was necessary. Data were available for total value of shipments by each two-digit (SIC group) industry. For the purposes

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* Deputy Comptroller for Information Services, Office of the Secretary of Defense. Department of Defense Prime Contractors Which Received Awards of $10,000 or More (Maryland). Fiscal Year 1965, 1966, 1967, 1968, 1969.

** The county indicated represents the location where the prime contract work or service is performed or the product is to be finally processed and assembled. These data do not reflect locations where work is performed by subcontractors of the prime contractor. As a result, some obvious inadequacies may slightly bias the data.

of this study, value of shipments has been considered synonymous with value of prime contracts. It is recognized that a time lag exists between the two values; however, the differences in measurement using the two values should result in only a small underestimation of employment. Total employment within the industry was divided into total value of shipments to determine the value of shipments per worker.

Since value of shipments and contract value could be thought of as similar measures, the value of shipments per worker was divided into the contract value to calculate the approximate number of workers employed by defense contracts. A hypothetical example of these calculations is presented in Appendix A to clarify the methodology.

Although the estimates of defense production employment are admittedly rough and probably underestimate the actual situation to some extent, the relative changes in defense contract employment probably mirror the true relationship between value of prime defense contracts and related employment quite closely.* County level detailed estimates of defense generated employment within each industry group during the study period are found in Appendix B.

Graph V-a represents the annual values of prime defense contracts derived from the Department of Defense annual contract listings. The striking increase from 1965 to 1966 substantiates earlier information sources which indicated a strong surge in defense spending in that period. A similar trend was found in estimated employment in defense production in the State (Graph V-a).

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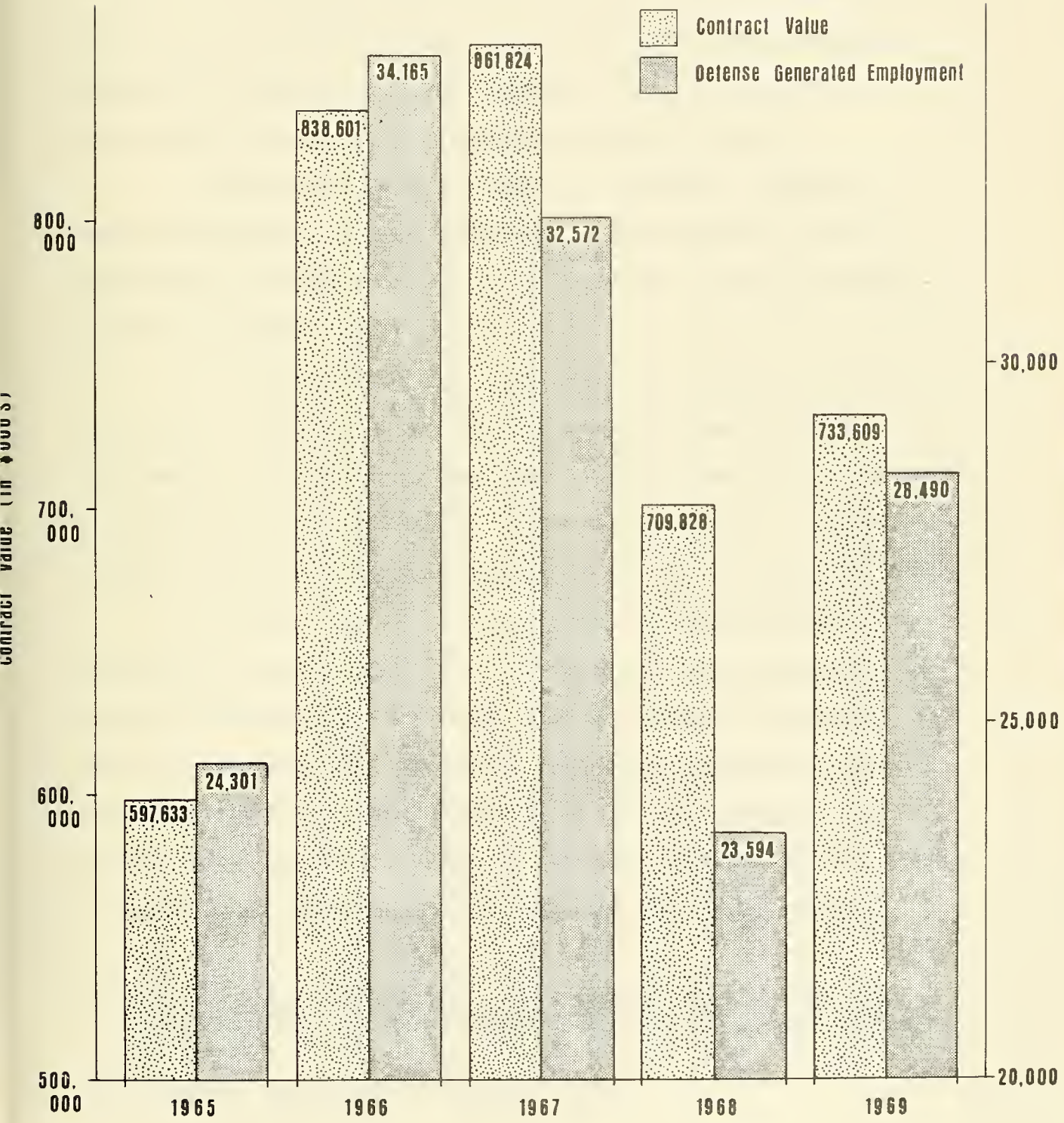
* One aspect of industrial employment from defense contracts not dealt with is that related to subcontracting. Data to investigate the role played by defense subcontractors in Maryland is simply not available. Consequently, it was assumed that although some Maryland prime contractors might let subcontracts to out-of-state concerns, out-of-state prime contractors would let some subcontracts in Maryland. In order to generate meaningful statistics with this limitation in the information, the flow of subcontracts to and from Maryland were assumed to offset each other with respect to resultant employment.

TOTAL VALUE OF PRIME DEFENSE CONTRACTS AND ESTIMATED EMPLOYMENT RESULTING FROM PRIME DEFENSE CONTRACTS OF $10,000 OR MORE 1965 - 1969



GRAPH V-a

The primary difference shown in Graph V-a is in the employment-contract value relationship during the 1966-1967 period. According to the data, contract value continued to increase from 1966 to 1967 while defense employment began to drop. Obviously, the per worker value of contracts increased during the study period. Furthermore, one might postulate that a shift toward more technically complex production, with characteristically higher value added by manufacturing, was occuring in Maryland's defense production.

Perhaps the most surprising fact illustrated in Graph V-a is that 1968 employment in prime defense contracts fell below the 1965 defense employment level, only to be followed by an upswing in defense generated employment for 1969.

While total employment in the State rose steadily during the study period, employment increases in the manufacturing sector were far more sporadic. Manufacturing employment reached a peak in 1967 and was then followed in 1968 by a decline of over 6,500 workers. A small increase in total manufacturing employment in the State was noted in 1969.

The data relating to defense generated employment, while not conclusive, certainly suggest that the sharp rise in prime defense contracts in 1966 and 1967 only created a short-run spurt in statewide manufacturing employment. Employment projections developed by the Department of State Planning* postulated a very low growth rate for manufacturing employment in Maryland. The most recently available data** on manufacturing employment suggests that these previously projected

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* See The Economy of Maryland: Projections of Employment to 1980, for a detailed treatment of employment growth in the manufacturing sector.

** Department of Employment Security. 1969.

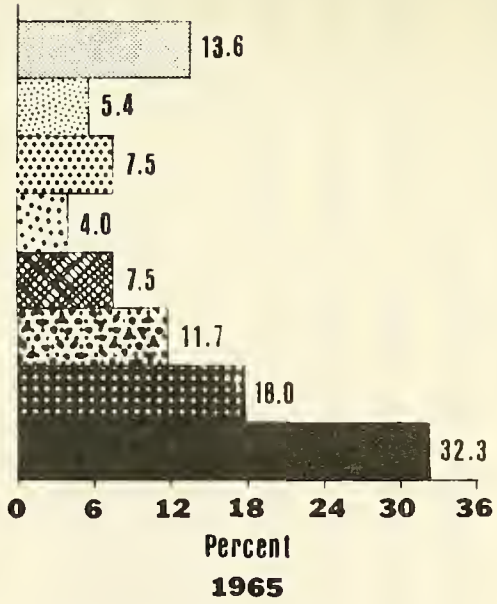
employment levels for 1970 will be quite accurate. If the data are accurate, this would substantiate the low growth rate hypothesis postulated by the Department of State Planning. Furthermore, this strengthens the viewpoint that recent increased defense spending has few long run effects on Maryland's manufacturing economy.

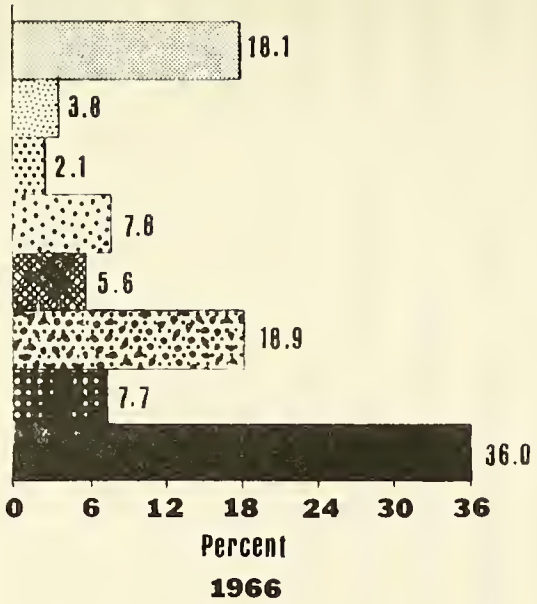
With the exception of 1968, seven industry groups were responsible for over 80 percent of Maryland's defense generated employment during the study period.

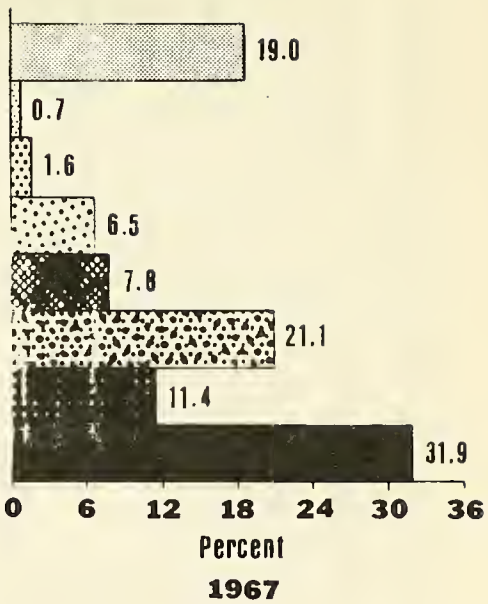
As in indicated by Graph V-b, the electrical machinery industry (SIC 36) had the largest percentage of the State's defense generated employment. The trends in defense generated employment in the electrical machinery industry seem to follow those for defense generated employment as a group. Defense generated employment in the industry rose sharply in 1966, maintained a high level in 1967, slackened off in 1968, and showed some increase in 1969. However, total statewide employment in the electrical machinery industry is characterized by a one year lag in the trend pattern. Instead of 1967 being a peak employment year followed by a decrease in employment in 1968, the peak employment year was 1968, and an employment drop is recorded for 1969. The reasons for a lag effect to be present are numerous; the "tooling up" process may be lengthy, contracts may extend over a long time period, or contract work may have started after the first quarter of the year which was used as the representative figure for the year.

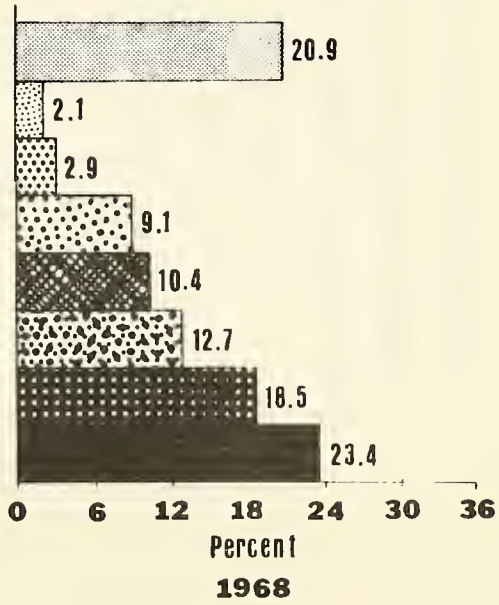
Ordnance and accessories production (SIC 19), the second most important defense industry in the State, appears to have had increases in defense generated employment in the last four years of the study period (Graph V-b). This observation is not consistent with data per-

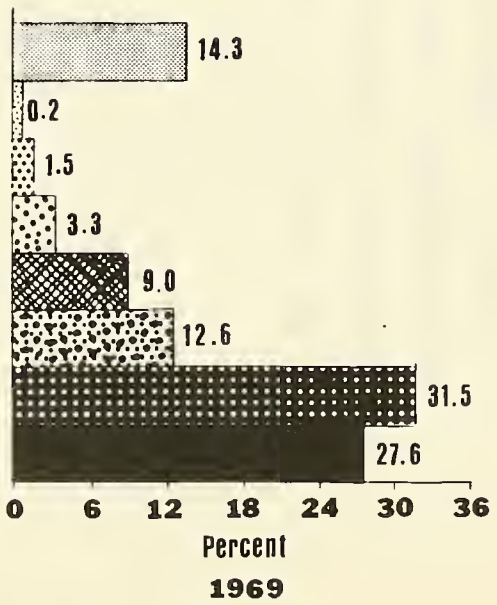
PERCENTAGE DISTRIBUTION

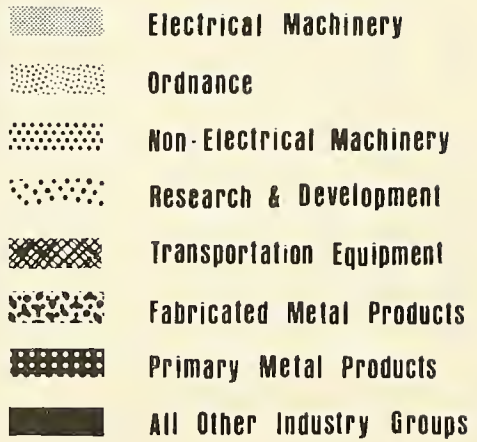












GRAPH V-b

taining to statewide employment in this industry group. The statewide data indicate that ordnance production employment dropped over 5,000 workers from 1967 to 1969. Quite possibly, long term prime defense contracts, awarded before the study period began, could account for higher levels of defense generated employment than were estimated from contracts awarded during the study period.

A surge in defense generated employment in the non-electrical machinery industry (SIC 35) was estimated for 1966 and 1967. However, an examination of the statewide data for total employment in the industry reveals that a sharp rise in employment occurred in 1966 and was followed by a stable period with little change in employment. The period of relative stability indicates that many of the prime defense contracts awarded to the non-electrical machinery industry were for work that was to be carried out over more than one year.

Miscellaneous business services (SIC 73), which includes research and development activities, is one of the most vigorously growing industries in the State. For the State as a whole, this industry has continued to increase in employment consistently, even as defense generated employment in services became fairly stable in the last three years of the study period.

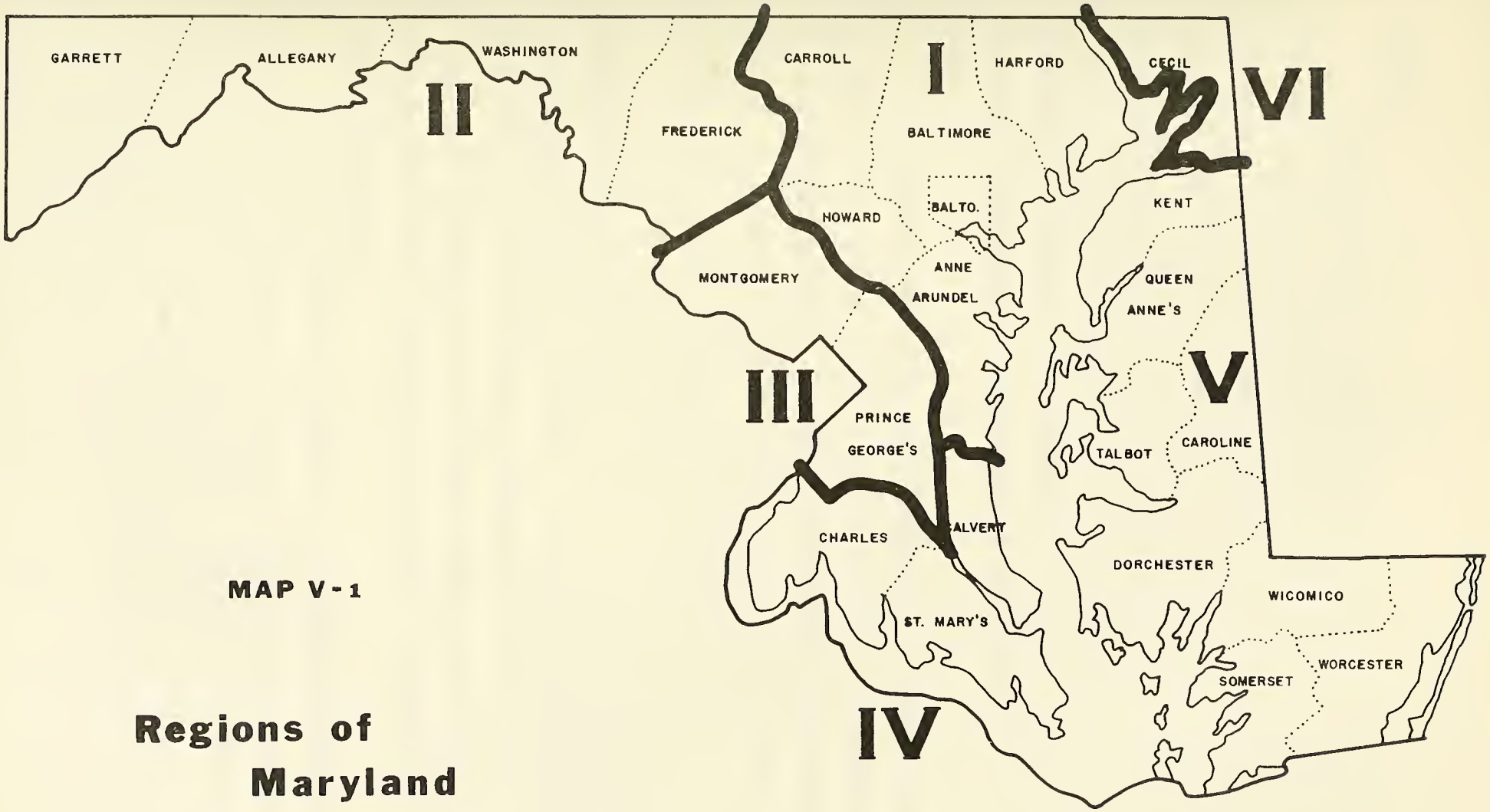
The transportation equipment industry (SIC 37) experienced a large increase in defense generated employment from 1966 through 1968. A drop in defense generated employment in 1969 brought the level of this type of employment back to approximately that found in 1965. It is worthwhile to note that since defense generated employment in the transportation equipment industry has dropped back to the 1965 level the employment projection for 1970 will be fairly close. In effect, the

increase in prime defense contracts appears to have had only a short run effect on employment in the transportation equipment industry.

The remainder of industries represented by prime defense contracts, as a group, has only shown a short spurt in defense generated employment and by 1969 had started to move back toward pre-Vietnam build-up production levels.

Just as there was some concentration of defense generated employment in certain industries, geographical concentrations of defense generated employment are very evident also. In order to proceed with a comprehensive discussion of the significance of the geographical incidence of defense expenditures and activities in Maryland, the counties and Baltimore City were grouped into regions of economic activity* (Map V-1).

* In some cases the actual economic regions extend into political units outside Maryland. Since data were only available for Maryland, parts of the regions outside the State have been excluded from the analysis.



MAP V-1

Regions of Maryland

Region I

Without question, Region I leads the State in defense-related employment. Only in 1968 did its share of defense-related employment drop below an impressive 75 percent of total defense-related state employment (Graph V-c). The share of the Region's total employment represented by defense production during the study period ranged from a low of 2.9 percent to a high of 5.1 percent. The rather apparent clustering of the State's total employment into Region I is noticeably reflected by the amount of defense generated employment found in the Region.

The bulk of defense generated employment is concentrated in the manufacturing sector of the economy (Table V-1). The dominant outstanding industry groups in the Region are Ordnance and accessories (SIC 19), non-electrical machinery (SIC 35), electrical machinery (SIC 36) and to a lesser extent, transportation equipment (SIC 37).

It is perhaps more instructive to point out industry groups not highly represented in Region I than to note all the industries in which the Region leads in employment. The printing and publishing industry (SIC 27) and miscellaneous business services (SIC 73), of which research and development is an important component, seem to be the only industry groups with a comparatively small share of the State's defense contract employment.

Defense-generated employment in the Region went through several rather large changes during the five year study period. Clearly the buildup of military strength in Vietnam is apparent from the growth in defense production employment in 1966 and 1967 (Table V-1). The drop in defense production in the State was seen particularly in Region I,

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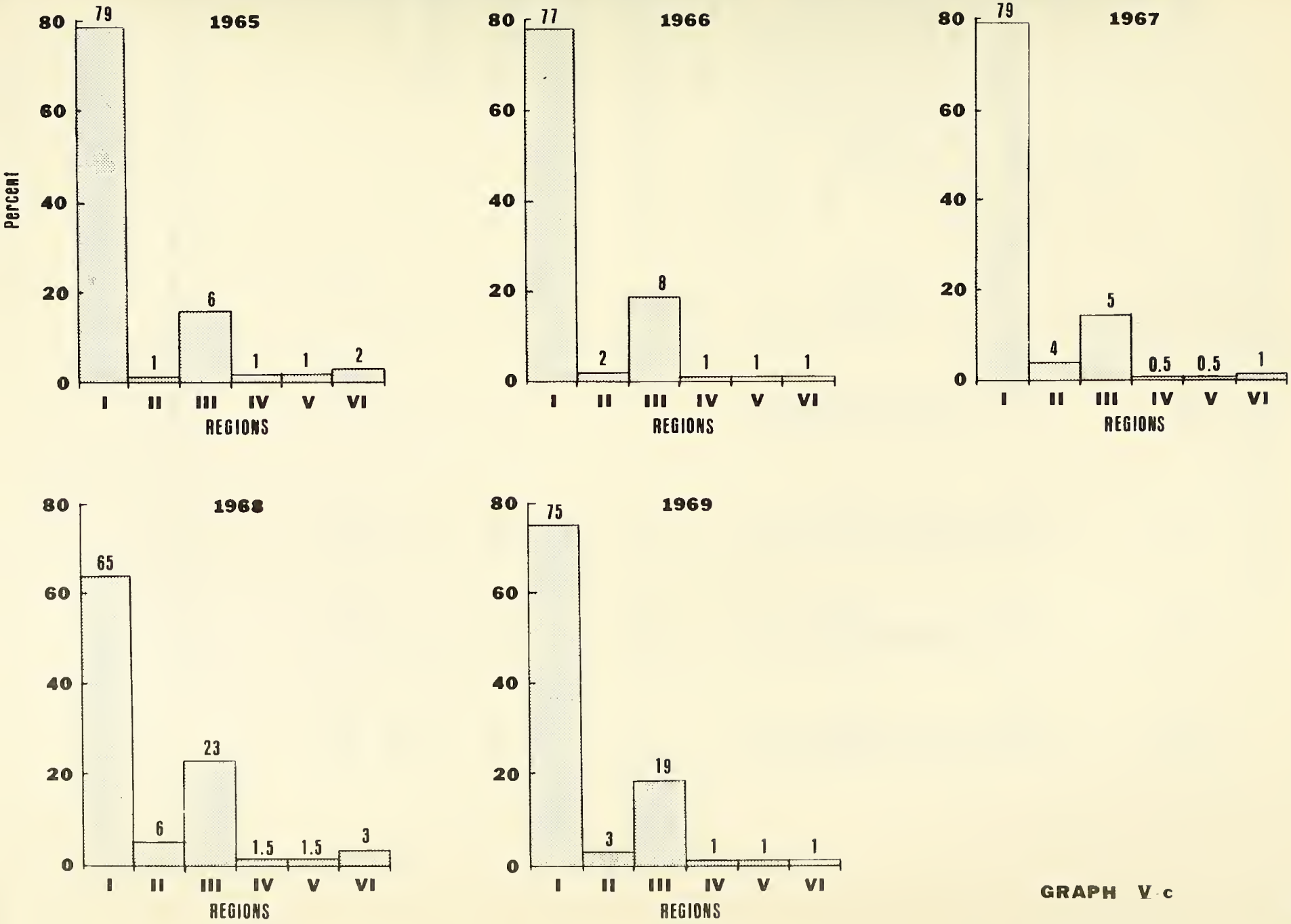

GRAPH V-c

TABLE V-1

ESTIMATED DEFENSE GENERATED EMPLOYMENT
IN REGION I: (1965-1969)

Industry	1965	1966	1967	1968	1969
Agri., For., Fish. (SIC 07)	ns	ns	ns	ns	ns
Contract Construction (SIC 15-17)	272	359	292	243	192
Manufacturing (Subtotal)	17,656	25,236	24,120	13,963	20,487
19 Ordnance	4,273	2,471	3,484	4,146	8,789
27 Printing & Publishing	ns	97	118	ns	ns
30 Rubber & Misc. Plast.	306	637	484	239	388
31 Leather & L. Prod.		415	1,225	108	254
33 Primary Metals	1,274	1,279	111	464	54
34 Fabricated Metals	1,611	561	457	394	402
35 Mach. except Elec.	2,818	6,188	6,639	2,436	3,330
36 Electrical Mach.	5,948	9,002	8,959	3,868	5,884
37 Transportation Equip.	881	2,442	1,368	1,156	522
38 Instruments	30	1,219	723	563	544
Other Durable Goods	81	180	ns	264	16
Other Non-durable Goods	429	745	523	317	302
Trans., Comm. & Utilities (SIC 40-49)	137	74	84	86	ns
Wholesale & Retail Trade (SIC 50-59)	482	230	252	418	186
Finance, Ins. & R. E. (SIC 60-67)					
Services (SIC 70-89)	402	349	385	487	398
Government (SIC 91-94)	ns	ns	ns	ns	ns
Not Known	344	248	444	292	145
Total	19,317	26,514	25,593	15,522	21,472

ns - Estimated defense generated employment of less than 50 persons

with its share of defense-generated employment falling from 78.6 percent of the State total in 1967 to 65.8 percent in 1968. Nevertheless, increased contract activity in 1969 brought the Region's share back up to 75.4 percent of total defense-related State employment.

During all the time when fluctuations in defense employment were occurring, the unemployment rate remained quite low (around 3 percent) in Region I. The fact that unemployment rates did tend to remain low while changes involving several thousand workers were taking place in the defense industries is a strong indication that the overall structure of the Region's industrial sector is capable of reacting favorably to economic stresses.

A large part of Anne Arundel County's defense generated employment is found in ordnance and accessories (SIC 19). Since cutbacks in ordnance generally occur in peacetime situations, an awareness of possible serious defense contract reductions should be felt by decision makers.

Anne Arundel County's other three industries of significant size are electrical machinery (SIC 36), instruments (SIC 38) and research and development (included in SIC 73). Although this complex is relatively small, it is the sort of industrial mix which retains a fair measure of viability. Activities associated with the U. S. Naval Academy can be considered to add a minor amount of stability to the county employment base.

Throughout the study period Baltimore County has been a major recipient of prime defense contracts awarded in Maryland. In 1969, an extremely large increase in defense-generated employment was

estimated from Department of Defense prime defense contract data.* Most of the employment increase was concentrated in two industries already represented in the county, machinery, not electrical (SIC 35) and electrical machinery (SIC 36). A consistently growing defense employer has been the ordnance and accessories industry (SIC 19).

A high incidence of defense employment is also found in Baltimore City.** A definite peak in prime defense contract employment occurred in 1966 and 1967. Since then, a significant decline in defense generated employment has been readily observable.***

A broad variety of Baltimore City's industries are represented by prime defense contracts. The bulk of the contract employment was concentrated in three industries, non-electrical machinery (SIC 35), electrical machinery (SIC 36), and transportation equipment (SIC 37). From 1967 to 1969 overall employment growth in these three industries was minimal. The manufacturing sector is characterized by an extremely low growth rate. Within this very slowly growing manufacturing sector apparently increases in non-defense contracts have been barely offsetting decreases in prime defense contracts. A business recession in 1970 could have noticeable effects on employment in these industries.

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* The geographical method used to report locations of prime defense contracts is in some cases rather ambiguous. It is highly conceivable that a part of the surge in defense generated employment in Baltimore County for 1969 actually took place in Baltimore City.

** See Appendix B.

*** Baltimore City's defense generated employment unquestionably dropped in 1969; however, the severity of the decrease is probably overestimated. See footnote under Baltimore County.

Relatively speaking, Carroll County's share of the State's prime defense contracts has been quite small. In 1969 one industry, transportation equipment (SIC 37), accounted for almost two thirds of the county's defense generated employment.

Defense generated employment trends in Harford County have followed those for the State rather closely. The types of industrial and commercial activities receiving prime defense contracts in Harford County appear to be closely linked to the Vietnam war effort, and a cessation of hostilities may result in a drop in defense-generated employment. In particular, one industry, leather and its products (SIC 31), engaged primarily in the manufacture of combat shoes for the military personnel in Vietnam, has dominated the prime defense contracts awarded in the county. Smaller contracts in utilities and commercial trade were probably to service the government arsenal and facilities located in the county.

Most of the prime defense contract employment in Howard County has been concentrated into two industries, apparel and finished products made of fabrics (SIC 23) and electrical machinery (SIC 36). Already in 1969, Howard County's defense generated employment had dropped below one hundred workers as prime defense contracts slackened.

Region II

Region II experienced a build-up in defense related employment (Table V-2) through 1968. This was followed by a marked drop in 1969, both in percentage of the State's total defense related employment (Graph V-a) and in actual number of workers.

Throughout the 1965-1969 study period two industries, non-electrical machinery (SIC 35) and transportation equipment (SIC 37) dominated Region II's prime defense contracts. Likewise, these same two industries were responsible for most of the growth in defense generated employment up to 1968. The decline in defense generated employment of over 700 workers noted in 1969 was also concentrated in the two dominant industries.

A very small percentage of Region II's total employment force (1 percent, as opposed to 3.8 percent in Region I and 3 percent in Region III) has been involved in production to fill prime defense contracts. Since defense contracts within the region are concentrated into only two of the region's four counties, the discussion of defense generated employment at the county level should be carefully noted.

Defense generated employment in Frederick County has ranged from a low of 103 workers in 1965* to a peak of 381 workers in 1967. Although most of the defense generated employment in the county has been scattered over a broad spectrum of industries, contract construction (SIC 17) has consistently been a source of defense contracts.

Washington County experienced a vigorous growth in defense generated employment through 1968. However, a drop in employment resulting from prime defense contracts of about 50 percent was estimated

* County level defense generated employment statistics are found in Appendix B.

TABLE V-2

ESTIMATED DEFENSE GENERATED EMPLOYMENT
IN REGION II: (1965-1969)

Industry	1965	1966	1967	1968	1969
Agri., For., Fish. (SIC 07)	ns	ns	ns	ns	ns
Contract Construction (SIC 15-17)	ns	ns	158	ns	ns
Manufacturing (Subtotal)	128	352	922	1,330	611
19 Ordnance	ns		ns		
27 Prtg. & Publishing			ns		ns
30 Rubber & Misc. Plast.	ns	ns	ns		
31 Leather & L. Prod.	ns		58	61	ns
33 Primary Metals			ns	ns	
34 Fabricated Metals	ns	ns	ns	ns	ns
35 Mach. except Elec.	ns	95	188	427	138
36 Electrical Mach.	ns	72	83	ns	ns
37 Transportation Equip.	ns	131	552	774	382
38 Instruments	ns	ns	ns	ns	ns
Other Durable Goods	ns	ns	ns	ns	ns
Other Non-durable Goods		ns		ns	
Trans.. Comm. & Utilities (SIC 40-49)	ns	ns	ns	ns	ns
Wholesale & Retail Trade (SIC 50-59)	ns	ns	ns	ns	ns
Finance, Ins. & R. E. (SIC 60-67)					
Services (SIC 70-89)		ns	ns	ns	ns
Government (SIC 91-94)	ns				
Not Known	ns	ns	ns	ns	ns
Total	181	433	1,163	1,415	711

ns - Estimated defense generated employment of less than 50 persons

for 1969. The largest number of prime defense contract employees are found in the transportation equipment industry (SIC 37). The non-electrical machinery industry (SIC 35) is the only other significant recipient of prime defense contracts in Washington County.

Neither Allegany County nor Garrett County had a significant number of workers employed as a result of prime defense contracts.

Region III

The location of Region III, bordering the District of Columbia on the north and east, is extremely advantageous for industries requiring close contact with new developments in the federal government. In addition, as federal government operations are enlarged there has been some tendency for new facilities to be constructed in the nearby Maryland counties.

Approximately three percent of Region III's employment consisted of prime defense contract work during the study period. With the exception of 1966, when a short surge in defense contract awards occurred, defense generated employment has gradually increased (Table V-3). Region III has been second only to Region I, the Baltimore area, in the value of prime defense contracts received and the subsequent amount of employment generated (Graph V-a).

Although the projected 1960-1970 growth rate for the manufacturing sector in Region III was considerably higher than for any other region in the State, recent data suggest that the actual growth rate is even higher than expected. The manufacturing sector of Region III is characterized by small firms, on the average, almost one third the size of manufacturing firms in Region I. The overall vigorous growth of Region III's economy, particularly that occurring in some of the industries most likely to be affected by reductions in defense spending, should be an important factor in offsetting problems that could arise in further development of the region's economy.

As a group, the industries most important in Region III appear to be linked more closely to new developments in education, science, and technology than the other regions as can be seen in Table V-3. Largest of this set of industries is miscellaneous business services (SIC 73),

TABLE V-3

ESTIMATED DEFENSE GENERATED EMPLOYMENT
IN REGION III: (1965-1969)

Industry	1965	1966	1967	1968	1969
Agri., For., Fish. (SIC 07)	ns	ns	ns	ns	ns
Contract Construction (SIC 15-17)	ns	127	87	200	ns
Manufacturing (Subtotal)	2,437	3,924	2,368	2,549	3,242
19 Ordnance	ns	ns	ns	ns	ns
27 Prtg. & Publishing	93	115	675	100	934
30 Rubber & Misc. Plast.	ns	ns	ns	ns	ns
31 Leather & L. Prod.					
33 Primary Metals		ns	ns	ns	
34 Fabricated Metals	184	63	61	230	ns
35 Mach. except Elec.	ns	150	ns	113	136
36 Electrical Mach.	1,833	3,179	1,325	1,613	1,949
37 Transportation Equip.	ns	56	107	54	ns
38 Instruments	208	294	122	194	99
Other Durable Goods	ns	ns	ns	166	ns
Other Non-durable Goods	ns	ns	ns	75	50
Trans., Comm. & Utilities (SIC 40-49)	ns	ns	ns	ns	ns
Wholesale & Retail Trade (SIC 50-59)	ns	180	99	193	82
Finance, Ins. & R. E. (SIC 60-67)					
Services (SIC 70-89)	1,410	1,542	2,145	1,971	2,139
Government (SIC 91-94)	ns	ns	ns	ns	ns
Not Known	200	321	256	511	124
Total	4,142	6,120	4,988	5,452	5,689

ns - Estimated defense generated employment of less than 50 persons

which, for the most part, is comprised of firms engaged in research and development functions. Closely linked to the region's research and development activities are the electrical machinery industry (SIC 36) and the instrument industry (SIC 38). A possible by-product of research and development services has been the growth of defense generated employment in the printing and publishing industry (SIC 27).

Montgomery County has received relatively large shares of the prime defense contracts given in Maryland. During the study period two industries, electrical machinery (SIC 36) and miscellaneous business services (mostly research and development) (SIC 73) alternated as the leading defense industry. The 1969 estimates of defense generated employment indicate that these two industry groups were represented equally.

Prince George's County appears to have attracted the same types of prime defense contracts as Montgomery County, although on a smaller scale. Most of the drop in defense generated employment was focused on the electrical machinery industry. In 1969, research and development firms were the major recipients of prime defense contracts.

Region IV

Only a small portion of Maryland's prime defense contract employment was found in Region IV (less than 1 percent except in 1968).

No significant concentrations of defense generated employment are found in Region IV*. Contract construction (SIC 17) and wholesale and retail trade (SIC 50-59) which had the largest number employees resulting from prime defense contracts are most likely associated with the military installations found within the region.

The number of workers employed by prime defense contracts in Calvert County is quite small (11 workers in 1968, the peak year).

With the exception of 1966, defense generated employment in Charles County has remained below one hundred workers. Unfortunately, it was not possible to identify the proper industry group of many of the firms receiving prime defense contracts**; however, the contract construction industry (SIC 15-17) did have a number of workers employed as a result of prime defense contracts.

St. Mary's County's defense generated employment was focused primarily on wholesale and retail trade. In 1969, prime defense contracts for commercial trade declined and contract construction (SIC 15-17) became the County's most important recipient of prime defense contracts. As in the case of Charles County, it was not possible to determine the industry group of any sizeable number of firms in St. Mary's County receiving prime defense contracts**.

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* Department of Defense civilian employment, which is of far greater importance in Region IV is discussed in the following section.

** Part of the procedure for estimating defense generated employment required that each individual firm receiving a prime defense contract be identified by industry group. A lack of information about the type of activity in which some firms were engaged made it necessary to place them in a "not known" category.

Region V

Region V has also received only a minor share of the State's prime defense contracts, and consequently, an extremely small portion of the region's total employment force has been devoted to prime contract production.

Region V's agricultural assets proved to be an important factor for attracting prime defense contracts to the food and kindred products industry (SIC 20). However, the number of persons employed by these contracts has dropped off continually since 1966. Other forms of defense-generated employment are scattered thinly over a broad variety of industries*.

In 1969, Region V had the smallest amount of employment resulting from prime defense contracts.

Defense generated employment in Caroline County has steadily decreased since 1966. The small number of workers who were employed by prime defense contracts were, for the most part, engaged in contract construction (SIC 15-17).

Growth in employment in Dorchester County resulting from prime defense contracts occurred through 1968. During this period the food and kindred products industry (SIC 20) received a major portion of the prime contracts given out in the county. The decrease in defense generated employment in 1969 is due to a decrease in prime defense contracts to the food processing industry.

Kent County's prime defense contract employment increased through 1968 as wholesale and retail trade firms received larger contracts. In 1969 defense generated employment fell back to approximately that estimated for 1965.

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* See Appendix B for county level estimations of defense generated employment.

Queen Anne's County's defense generated employment was low throughout the study period. The food and kindred products industry (SIC 20) was the only industry to receive any noticeably-sized prime defense contract.

During the first years of the study period Somerset County received a small number of prime defense contracts (enough to employ 101 workers in the peak year) primarily in the apparel and finished products made of fabric industry (SIC 23). With the loss of prime contracts to this industry, Somerset County's estimated defense generated employment dropped to a low of one person.

Talbot County did not receive a large number of prime defense contracts from 1965 to 1969. Most of the prime defense contracts awarded in the county were in the food and kindred products industry.

The amount of defense generated employment in Wicomico County remained small throughout the study period. The food and kindred products industry (SIC 20) was the only industry group to receive prime defense contracts with any degree of consistency.

As was the case with many of the other Eastern Shore counties, Worcester County experienced a small upswing in defense generated employment which was subsequently followed by a downward trend in this type of employment. The food and kindred products industry (SIC 20) was the best represented industry group during the study period.

Region VI

A steady increase in defense-generated employment in Region VI (Cecil County) took place through 1968. This upward trend was followed by a sharp drop in 1969 (Appendix B).

Although Region VI has always received a limited share of Maryland's prime defense contracts, its relatively small employment base has resulted in causing Region VI having as much as 7 percent of its employed engaged in production of prime contract goods and services.

Ordnance and accessories (SIC 19) has been the major industry to employ defense contract workers. Sporadically, the transportation equipment industry (SIC 37) has also received prime defense contracts, but it should be noted that this industry received no prime defense contracts in 1969.

VI. DEPARTMENT OF DEFENSE CIVILIAN EMPLOYMENT IN MARYLAND

In addition to employment generated by prime defense contracts awarded in Maryland, a large number of civilians are employed by various Department of Defense installations within the State. Just as cutbacks in prime defense contracts can be expected as the Vietnam situation is resolved, decreases in DOD civilian employment can likewise be anticipated.

The plight of the civilian worker on a military installation can be far more serious than that of his counterpart employed by a prime defense contract. In many cases, prime defense contracts can be replaced by civilian contracts, and the prime contract worker will be able to retain his job. If a prime contract worker is displaced from his position, frequently he is located in an industrial environment where he can readily compete for a new job. The displaced civilian DOD employee, on the other hand, will have to face the problem of seeking work in industrial settings where he may lack experience and information in job hunting. To add to the displaced civilian DOD employee's problems, he may have to travel a considerable distance from his residence to a large urban area where employment opportunities can be found. Since some of the military installations in Maryland are located far from urban employment centers, the displaced workers' inclinations to commute relatively long distances will be a critical issue in the readjustment process.

Civilian DOD employment in Maryland* is concentrated into 10 counties and Baltimore City (Table VI-1). The bulk of this employment is concentrated in Prince George's, Harford and Anne Arundel counties and comprises a large share of total employment in Charles and St. Mary's Counties.

Although the actual amount of civilian DOD cutbacks is unknown, it is almost a certainty to assume that the number will be large. Some indication of the magnitude of these cutbacks may be inferred from an inspection of the rate of growth of civilian DOD employment in each of the involved counties. If civilian DOD employment in Maryland is reduced to the 1965 level, over 18,000 workers will be displaced; or, if the anticipated reduction is back to the 1962 level, almost 20,000 workers will be affected. It is not possible to accurately predict the counties in which civilian employment cutbacks will occur; however, the possibility of a cutback will be weighed as an important factor in the discussion of each county's defense vulnerability.

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* Installations with employment of 100 persons or more report directly to the Department of Employment Security on a 100 percent basis. Those installations with employment under 100 persons are reported quarterly in a publication of the Department of Defense. Montgomery and Prince George's Counties are considered as part of the Washington Metropolitan Area and do not report directly to the Maryland Department of Employment Security. They are included in the Maryland statistics only after they have been sent to Maryland by the Bureau of Labor Statistics in quarterly reports.

TABLE VI-I

CIVILIAN DEFENSE WORKERS
IN MARYLAND BY COUNTY*
1962-1969

	1962	1963	1964	1965	1966	1967	1968	1969
Anne Arundel	5,372	5,363	5,621	5,684	6,238	6,846	7,077	7,311
Baltimore County	-----	249	241	254	287	447	354	286
Baltimore City	1,803	1,895	1,782	1,728	2,352	2,639	2,498	2,872
Cecil	350	476	575	622	738	846	987	905
Charles	3,333	2,894	2,627	2,624	3,195	3,935	3,538	3,816
Frederick	2,175	2,163	2,291	2,299	2,367	2,326	2,126	2,023
Harford	9,255	9,149	9,673	9,629	10,820	11,335	10,990	11,006
Montgomery	5,825	6,151	6,247	6,229	6,572	7,237	7,551	7,351
Prince George's	1,749	1,941	2,032	2,011	2,545	2,617	6,186	13,564
St. Mary's	1,924	1,959	1,925	1,858	2,086	2,638	2,434	2,463
Washington	237	268	265	319	381	444	480	519
Other	266	235	244	404	490	526	5,402**	-----
Total	32,289	32,743	33,523	33,661	38,071	41,836	49,623	52,116

* Compiled by the Maryland Department of Employment Security, Research and Analysis Division, January 1970.

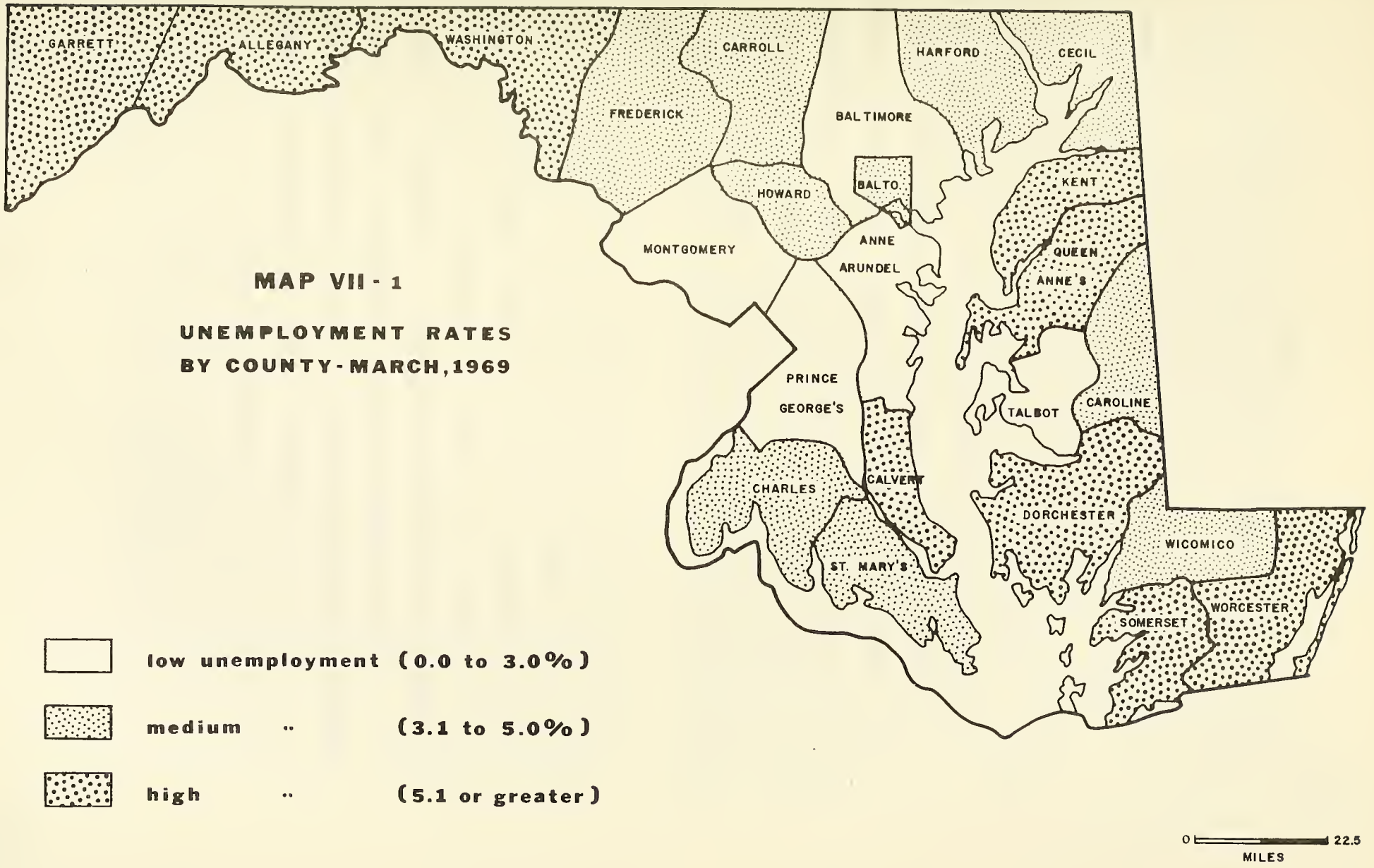
** Installations in the Washington, D. C., area began reporting to Maryland.

VII. THE ECONOMIC VULNERABILITY OF MARYLAND'S COUNTIES TO POSSIBLE DECREASES IN DEPARTMENT OF DEFENSE ACTIVITY

Information concerning the economic structure of Maryland's counties and the level of Department of Defense oriented activity within each of the counties makes it possible to state some feasible outcomes of cutbacks of defense spending in Maryland. The four indicators described below can be used to develop some reasonable hypotheses about the likelihood of decreases in defense related employment as a result of a smaller defense budget and/or a cessation of hostilities in Vietnam. Furthermore, the impact on the economy of each county can be evaluated in the data analysis.

Indicator 1 - The Unemployment Rate. County unemployment rates (Map VII-1) provide a good indication of the level of economic activity within a small part of the State. Generally, an unemployment rate of 4 percent is considered as full employment (at least, at the national level). The unemployment rate for the State of Maryland has consistently been below this mark for some time. However, unemployment rates at the county level indicate considerable variation in employment conditions; the conditions that cause this are beyond the scope of this report.

As a rule of thumb, if a county has a low unemployment rate it can absorb many workers displaced from defense work without severe economic implications. On the other hand, a county with a high unemployment rate is already in an adverse economic situation. Furthermore, if more workers are added to the unemployed group, a current problem is only worsened.


GARRETT
ALLEGANY
WASHINGTON
FREDERICK
CARROLL
BALTIMORE
HARFORD
CECIL
HOWARD
BALTO.
KENT
MONTGOMERY
ANNE
ARUNDEL
QUEEN
ANNE'S
PRINCE
GEORGE'S
TALBOT
CAROLINE
CHARLES
CALVERT
DORCHESTER
WICOMICO
ST. MARY'S
SOMERSET
WORCESTER
MAP VII - 1
UNEMPLOYMENT RATES
BY COUNTY - MARCH, 1969
low unemployment (0.0 to 3.0%)
medium .. (3.1 to 5.0%)
high .. (5.1 or greater)
0
22.5
MILES

Indicator 2 - The County Industrial Base. The size and number of different industries represented within a county are often key factors to be examined when estimating the possible effects of a sudden change in the existing economic pattern. An industrial base which is broad, that is, it is diversified and encompasses many different industries, offers some advantages over one that exhibits a concentration of employment into a small number of industries. First, any specific change in the market conditions for a given industry's product is less likely to affect the entire industrial economy of an area if the particular industry supports only a small segment of the local economy. Secondly, the spectrum of job skills found in the local labor market tends to be broader when the industrial structure is diversified. Consequently, a displaced worker has a greater opportunity to reapply his specific skills and training in the broad-based industrial economy.

It should not be assumed that the creation of a broad industrial base is the panacea for all possible economic ills. A number of other considerations should also be made in evaluating a county's industrial base. For example, the location of the county's industrial complex with respect to raw materials and market areas can have a pronounced effect on the growth or decline of economic activities. The history of industrial development, including resultant patterns of employment and unemployment, is also an important factor contributing to the evaluation of a county's industrial base. Other factors, such as the character of the people living and working in a county, can have strong implications for the area's economic responsiveness to new situations.

Indicator 3 - Estimated Defense Generated Employment. The amount of defense generated employment in a county, together with the industries, this employment represents, allows the analyst to make some inferences as to the impact of a reduction of defense expenditures. In addition, the examination of data for a series of years provides valuable insights for predicting the rate and magnitude at which specific changes in prime defense contract awards are likely to occur. Data is presented in Appendix B which will aid the reader, interested in specific industries at the local level, in inferring distinct problems and issues that could arise in the face of decreases in defense spending.

Indicator 4 - Civilian Department of Defense Employment. This indicator is perhaps the most explicit of the four indicators used to evaluate county economic vulnerability to defense budget cuts. Time series data have been presented to make the reader aware of the growth in civilian defense employment in recent years. Much of this employment build-up is a result of our military commitment in Vietnam, and should logically be expected to be curtailed as hostilities diminish or as Vietnamization takes effect.

Providing jobs for displaced civilian DOD employees may be a difficult problem in some areas. Awareness and planning will be required to prepare for the eventuality of a severe decrease in civilian DOD employment.

In order to develop a more comprehensive understanding of all defense related employment in each county, defense generated employment and civilian DOD employment figures were combined (Table VII-1). Total defense employment by county was then divided by total employment in the

TABLE VII-1

DEFENSE INVOLVEMENT IN MARYLAND BY COUNTY: 1969
(ESTIMATED DIRECT EMPLOYMENT)

County	Covered Employment** (a)	Estimated Defense Generated Employment (b)	Civilian DOD Employment (c)	(a) + (c) (d)	Total Defense Employment (b)+(c) (e)	Percent of County Employment Related to Defense (e)/(d) (f)
Allegany	21,668	*		21,668	1	NS
Anne Arundel	44,973	8,016	7,311	52,284	15,327	29.3
Baltimore County	133,948	11,180	286	134,234	11,466	8.5
Baltimore City	347,541	1,639	2,872	350,413	4,511	1.3
Calvert	1,678	*		1,678	8	0.5
Caroline	3,845	*		3,845	2	0.1
Carroll	14,202	84		14,202	84	0.6
Cecil	8,265	241	905	9,170	1,146	12.5
Charles	5,311	86	3,816	9,127	3,902	42.8
Dorchester	7,241	*		7,241	32	0.4
Frederick	14,930	152	2,023	16,838	2,175	12.9
Garrett	2,440	*		2,440	2	0.1
Harford	13,244	459	11,006	24,250	11,465	47.3
Howard	6,650	94		6,650	94	1.4
Kent	2,984	*		2,984	24	0.8
Montgomery	102,747	5,034	7,351	110,098	12,385	11.3
Prince George's	85,272	655	13,564	98,836	14,219	14.4
Queen Anne's	2,225	*		2,225	29	1.3
St. Mary's	3,697	169	2,463	6,160	2,632	43.1
Somerset	2,578	*		2,578	1	NS
Talbot	5,638	*		5,638	10	0.2
Washington	27,525	559	519	28,044	1,078	3.8
Wicomico	17,512	*		17,512	8	0.1
Worcester	5,076	*		5,076	5	0.1
Nondistributable	14,105	----		14,105		NS
Total	895,305	28,490	52,116	947,421	80,606	8.5%

** Covered employment as used in this study refers to first quarter employment data from establishments covered by the State Unemployment Insurance program. These statistics are published in: Department of Employment Security. Employment and Payrolls Covered by the Unemployment Insurance Laws in Maryland: First Quarter 1969. These data are unadjusted in terms of undercoverage of small firms, particularly retail trade, services, insurance and real estate. Likewise, adjustments have not been made for self-employed and unpaid family workers, seasonal influences on employment, and a number of occupations in government and education. For a more complete discussion of adjustment categories see Maryland State Planning Department, The Economy of Maryland: Projections of Employment to 1980, pp. 123-125.

* Estimated defense generated employment of less than 50 persons.

county to determine the percent of county employment related to defense. The results of these calculations are found in Table VII-1.

Four counties, Anne Arundel, Charles, Harford, and St. Mary's, can be identified as having a high percentage of their total employment engaged in some form of defense work. The remainder of this section is an evaluation of each of Maryland's counties' vulnerability to decreased defense spending.

County	Unemployment Rate	Character of the Industrial Base	Defense Generated Employment	Civilian DOD Employment	Evaluation of Economic Vulnerability
Allegany County	High	The chemical industry, paper production, the manufacture of rubber products and services are the leading industries. The manufacture of stone, clay and glass products, as well as the paper industries are indicative of the strong raw material orientation of the industrial base.	Very little prime defense contract work in the county.	None	Absence of DOD related activities indicate that the county will feel no direct effects of the DOD budget.
Anne Arundel County	Low	The county has a fairly broad industrial base. Employment concentrations in the commercial trade and service sectors are indicative of the county's role as a residential location for workers in the metropolitan centers.	A significant number of workers are employed in ordnance production. Science-oriented industries are also major employers.	Over 7,000 persons employed by DOD in 1969.	This county is likely to feel severe repercussions of cutbacks in the defense budget. The overall strength of the local economy, indicated by factors such as the low unemployment rate, will partially aid in offsetting the anticipated situation.

County	Unemployment Rate	Character of the Industrial Base	Defense Generated Employment	Civilian DOD Employment	Evaluation of Economic Vulnerability
Baltimore County	Very low	The industrial economy is very well diversified. A wide spectrum of manufacturing industries, several of which are closely linked together, are represented in the county. The growing employment in the service sector points up the general affluence and suburban character of the county.	Prime defense contract production in the county was most important in the heavy manufacturing industries. Concentrations of employment were evident in the machinery manufacturing industries in 1969.	By 1969, civilian DOD employment had dropped back to the 1966 level. Civilian DOD employment is not an important component of the total county employment.	Although the county receives a large amount of prime defense contracts which may be cut back, only minor shocks to the local economy are expected. Quick recognition of employment problems as they begin to develop will aid in minimizing any difficulties in adjustment.
Baltimore City	Medium	The city is the industrial hub of the State. A complex of industries ranging from heavy manufacturing to retail trade characterizes the city. Commercial trade, much of it port-oriented, is an important feature of the city's economy.	Defense generated employment in the city has decreased in recent years. The machinery and transportation equipment industries have been the major recipients of prime defense contracts.	Civilian DOD employment has increased by approximately a thousand workers in the last five years. A drop in employment of a similar size would not be unexpected.	The large size of the city's total employment base, plus moderate unemployment rates as prime defense contracts declined, indicate that the city will be able to surmount any reductions in defense spending with few problems.

County	Unemployment Rate	Character of the Industrial Base	Defense Generated Employment	Civilian DOD Employment	Evaluation of Economic Vulnerability
Calvert County	High	The county has a very small manufacturing sector. Retail trade, services, and construction are the most significant industry groups. Tobacco farming and warehousing, along with an increasing emphasis on recreation and tourism, are important economic activities.	Very little defense generated employment is located in the county.	None	A decrease in defense spending will have little apparent affect on the county.
Caroline County	Medium	Contract construction, retail trade, and the services are among the major employment categories in the county. Much of the county's economy is related to its diversified agricultural base. Food processing, although seasonal in nature, accounts for a large part of the county's employment.	The county receives almost no prime defense contracts.	None	Due to the lack of DOD related activity in the county, a decrease in defense spending will not directly affect the county.

County	Unemployment Rate	Character of the Industrial Base	Defense Generated Employment	Civilian DOD Employment	Evaluation of Economic Vulnerability
Carroll County	Medium	Agriculture is an important part of the Carroll County economy. Light industry, including sewing and manufacture of hand power tools, is found in the county. Increases in retail sales indicate the growing suburban character of the area.	Defense generated employment is a minor part of the county's total employment.	None	A cutback in defense spending should create no special problems in the county.
Cecil County	Medium	A number of manufacturing industries, of which transportation equipment and the chemical industries are dominant, are represented in the county. Many employees in Cecil County commute from either the Baltimore Metropolitan Area or Delaware.	Defense generated employment in 1969 had declined below the 1965 level.	There were approximately 900 civilian DOD employees in Cecil County in 1969. There was a gradual increase in this type of employment from 1962 to 1968.	Over 12 percent of the county's employment is related to defense. Only if defense cutbacks occur at a fairly slow rate, will the effects on the county's economy be held to a moderate level.

County	Unemployment Rate	Character of the Industrial Base	Defense Generated Employment	Civilian DOD Employment	Evaluation of Economic Vulnerability
Charles County	Medium	The county's industrial base is not very well developed. A diversity of manufacturing activities, in particular, is lacking. Agriculture, especially tobacco growing, is important to the local economy.	Less than 100 persons are employed as a result of prime defense contracts.	Civilian DOD employment makes up an extremely large part of the county's total employment.	While decreases in prime defense contracts will have only a small impact on the county's economy, the county would be seriously affected by a large reduction in civilian DOD employment.
Dorchester County	Very High	Activities associated with food production and processing are pronounced in Dorchester County.	Few people are employed as a result of prime defense contracts.	None	An ebb in defense spending should have little impact on the county's economy.
Frederick County	Medium	Contract construction, apparel manufacturing, retail trade and services are well represented. In general, the industrial base is well diversified. Dairy farming constitutes an important sector of the economy in this county.	Defense generated employment declined to 150 persons in 1969. Manufacturing comprised the major share of this employment.	Over 2000 persons in the county are civilian DOD workers. This employment level has been approximately the same for the last eight years.	The rate at which a decline in civilian DOD employment occurs (if, in fact, it does occur) will determine the severity of the effects of a cutback in defense spending on the county's economy.

County	Unemployment Rate	Character of the Industrial Base	Defense Generated Employment	Civilian DOD Employment	Evaluation of Economic Vulnerability
Garrett County	Very High	Agriculture is the predominant economic activity in the county. The forest products industries are of consequence in Garrett County. Recreational activities are becoming more important in the economy.	Almost no defense generated employment is found in Garrett County.	None	A reduction in defense spending will have no direct impact on the county.
Harford County	Medium	Contract construction, the chemical industry, and rubber and plastic production are the leading industries in the county. Considering the general size of the county's employment base, the manufacturing sector is not very evenly developed. Many residents of the county commute to the Baltimore area to work.	Harford County has received several large prime defense contracts, employing workers in ordnance production and the manufacture of leather products.	The county has the second largest number of civilian DOD employees of any county in Maryland.	Approximately 47 percent of the county's total employment is involved in some kind of defense related work. Harford County is likely to be severely affected by a cutback in defense spending, especially if activities at the military installations in the area are partially curtailed.

County	Unemployment Rate	Character of the Industrial Base	Defense Generated Employment	Civilian DOD Employment	Evaluation of Economic Vulnerability
Howard County	Medium	The county has a small industrial base with metal fabrication, construction, and retail trade as the major industries. Dairy farming is still important to the county economy.	Defense generated employment had tapered off to less than 100 persons by 1969.	None	A decrease in defense expenditures it not expected to have a very noticeable impact on the county's economy.
Kent County	High	Industry in the county is mainly related to activities associated with agricultural production. Seafood processing is also a notable industry.	There is very little defense generated employment in the county.	None	A reduction in defense expenditures is not anticipated to have any noteworthy impact on the economy of Kent County.
Montgomery County	Very Low	Manufacturing in the county leans heavily toward the production of electrical equipment and related items. Construction, retail trade, and services are each important components of the economy.	Over 5,000 persons were employed in 1969 as a result of prime defense contracts. The electrical machinery and R & D industries were the major recipients of the contracts.	Montgomery County has consistently had a large amount of civilian DOD employment.	The fact that the types of services provided by prime defense contract recipients are likely to find civilian markets, together with the low unemployment rate, indicates that the county can readily adjust to defense cutbacks. The slower the rate at which defense involvement is reduced, the easier the adjustment will be.

County	Unemployment Rate	Character of the Industrial Base	Defense Generated Employment	Civilian DOD Employment	Evaluation of Economic Vulnerability
Prince George's County	Low	The industry of the county is quite service-oriented. Manufacturing, with the exception of printing and publishing and food processing, is only moderately developed. Tobacco is the chief money crop cultivated in the agricultural area of the county.	Defense generated employment tapered off considerably from 1968 to 1969. R & D was the single most important prime defense contract recipient.	Civilian DOD employment more than doubled from 1968 to 1969. Prince George's County has the largest concentration of this type of employment.	Although the county has a large amount of civilian DOD employment, many of the services provided (such as hospital care) are not likely to be as affected by defense cuts as activities in other counties. Overall effects of a defense cut can be moderated by advance preparation to meet potential employment problems.
Queen Anne's County	High	Agriculture, and industry related to it such as food processing, is the most important aspect of Queen Anne's County's economy.	There is very little defense generated employment in the county.	None	No direct effects of a decrease in defense expenditures should be observable in the county.

County	Unemployment Rate	Character of the Industrial Base	Defense Generated Employment	Civilian DOD Employment	Evaluation of Economic Vulnerability
St. Mary's County	Medium	Industry is not well represented in the county. Agriculture is the dominant economic activity, with tobacco as the leading agricultural product.	The contract construction industry received the largest share of the county's prime defense contracts.	Civilian DOD employment comprises a large share of the county's total employment.	St. Mary's County is likely to encounter grave economic problems in the face of decreases in defense spending. Few jobs are currently available to provide new sources of employment for displaced civilian DOD workers.
Somerset County	Very High	The industry of Somerset County is for the most part, agriculturally oriented. The processing of poultry, seafood and farm produce are important activities.	There is almost no defense generated employment in the county.	None	The direct effects of a cut in the defense budget should be minimal in this county.
Talbot County	Low	Agriculture and related food processing are the most important industries in the county. A significant amount of retail trade employment can also be noted.	Very few prime defense contracts are awarded in Talbot County.	None	A decrease in DOD expenditures should have little observable impact on Talbot County.

County	Unemployment Rate	Character of the Industrial Base	Defense Generated Employment	Civilian DOD Employment	Evaluation of Economic Vulnerability
Washington County	High	Washington County has a relatively well developed industrial base, with many manufacturing groups represented in its industrial complex. The manufacture of transportation equipment is particularly important.	Defense generated employment, represented best in the manufacturing of transportation equipment, declined over 50 percent from 1968 to 1969.	The civilian DOD employment, although a small number, has grown at a slow steady rate during the last 8 years.	Defense related employment comprises less than 4 percent of the county's total employment. Despite the high unemployment rate, Washington County should be able to adjust to a cut in the defense budget with a moderate amount of difficulty, provided that the manufacturing sector is revitalized.
Wicomico County	Medium	Food processing is the hub of industrial activity in the county. Production of apparel and related products ranks next to food processing in the manufacturing industries.	There is very little defense generated employment in Wicomico County.	None=	A decline in DOD expenditures should have no direct effects on Wicomico County.
Worcester County	High	The economy of Worcester County is closely related to agricultural production. Resort activities are an essential part of the local economy.	The county has only a small amount of defense generated employment.	None	Worcester County will not encounter any economic problems as a direct result of a reduction in defense spending.

VIII. CONCLUSION

In this report three major criteria were used in evaluating the economic vulnerability of each of Maryland's counties to reductions in defense expenditures: (1) the unemployment rate, (2) the amount of defense-related employment, and (3) the percent of defense-related employment to total county employment. The respective three criteria do not affect, as a group, each county similarly, and consequently, the weight assigned to each varies according to the particular economic characteristics of the county in question.

The criterion based upon the amount of defense-related employment permits certain a priori conclusions. For example, the mere presence or absence of defense-related employment (Figure VII-1) constitutes prima facie evidence of a county's defense involvement. If defense-related employment is exceedingly small, the county obviously is not directly vulnerable to changes in defense spending. If, on the other hand, defense-related employment is relatively high, the other two criteria must be drawn upon in assessing economic vulnerability.

The applicability of the unemployment rate criterion generally is not meaningful in counties with very low levels of defense-related employment, for in such counties only a minor increase in the unemployment rate would at most result from a reduction in defense spending. In counties with high levels of defense-related employment, on the other hand, substantial increases in the unemployment rate might well be expected, at least initially. In assessing the ultimate consequences, knowledge with regard to the local economy's economic viability is essential. In either case, counties with existing low unemployment rates are in a better position to adjust to lower levels of defense spending than those with existing high unemployment rates.

Defense-related employment was broken into two categories for purposes of analysis. Defense generated employment, that is, employment directly resulting from prime defense contract awards, is the first category. Civilian Department of Defense employment comprises the second category. Although industry has the possibility of replacing prime defense contracts with civilian contracts to retain employees, the Department of Defense generally cannot offer to its civilian employees the same option when activity at a military installation is curtailed. For this reason, as well as those mentioned in Chapter VI, civilian DOD employees are judged to have a higher vulnerability to reductions in defense expenditures than workers whose employment is dependent upon prime defense contracts.

For purposes of this study, the economic vulnerability of each Maryland county to reductions in defense spending is scaled as low, medium, or high. These primary classifications were established on the basis of arbitrary groupings of counties that appeared to be relatively similar with respect to the three vulnerability criteria discussed above (Table VIII-1). The data used to measure the criteria are found in Table VIII-2.

A low vulnerability rating signifies that if a county were to lose <u>all</u> of its defense related employment, the direct economic impact would be negligible, and such a county would be expected to experience little difficulty in adjusting to decreases in defense spending. In most cases, the general absence of DOD activity in the county was the basis for awarding a <u>low</u> rating. Table VIII-1 describes the characteristics of the low-rated counties in more detail.

TABLE VIII-1

METHODOLOGY USED TO JUDGE COUNTY VULNERABILITY TO ECONOMIC IMPACT

Vulnerability Rating	If Defense Related Employment was reduced to zero (the extreme case), what would be the direct economic impact?	Evaluative Criteria used in arriving at economic impact judgment	Comments, or Characteristic situations for the class
LOW	Little direct impact is predicted for counties in this class.	The general absence of defense related employment in a county was the major criterion used to assess counties as having a low vulnerability. The only exception is Baltimore City which clearly fit the second criterion, low percent of total county employment related to defense.	Characteristically, defense related employment is a smal part of total employment in the counties judged to have low vulnerability. Baltimor City, which in 1969 had the largest amount of defense re lated employment of the counties in this group, was estimated to have very littl growth in defense employment during the study period.
MEDIUM	Depending upon the rate at which defense related employment is reduced, the unemployment rate could climb as much as 3 to 5 percent in the short run. Since the counties in this group tend to have diversified industrial bases, one adjustment alternative is to attract new civilian contracts to the local industrial complexes. A second alternative, available to two of the counties, is to seek employment in less-affected nearby areas.	The percent of county employment related to defense, together with the unemployment rate were used to judge the vulnerability and adjustment capability of the counties given medium ratings.	The presence of both civilia DOD employment and defense generated employment is char acteristic of the medium vulnerability counties.

Vulnerability Rating	If Defense Related Employment was reduced to zero (the extreme case), what would be the direct economic impact?	Evaluative Criteria used in arriving at economic impact judgment	Comments, or Characteristic situations for the class
HIGH	Counties in this class would be severely affected by any pronounced reduction in defense related employment. Unemployment levels, already (1969) in the medium range, would become extremely high.	The very high percentage of county employment, over 40 percent in each case, was the sole criterion used to judge counties assigned to the high vulnerability class.	Each of the counties in the high vulnerability class had most of its defense related employment in civilian DOD employment. In addition, adjustment opportunities are limited by the relative lack of a well developed industrial complex. The comparative isolation from the major centers of economic activity is particularly limiting to the adjustment potential of St. Mary's County and Charles County.

TABLE VIII-2

COUNTY LEVEL DEFENSE VULNERABILITY CRITERIA

	Total Defense Related Emp. 1969	Increase in Defense Related Employment 1965-69	Unemployment Rate[a] 1969	% of County Emp. Related to Defense 1969	Civilian DOD Employment 1969	Vulnerability Rating
Allegany	1	*	high	ns	-	Low
Somerset	1	*	high	ns	-	Low
Caroline	2	*	medium	0.1	-	Low
Garrett	2	*	high	0.1	-	Low
Wicomico	8	1	medium	0.1	-	Low
Worcester	5	*	high	0.1	-	Low
Talbot	10	*	low	0.2	-	Low
Dorchester	32	*	high	0.4	-	Low
Calvert	8	6	high	0.5	-	Low
Carroll	84	72	medium	0.6	-	Low
Kent	24	*	high	0.8	-	Low
Baltimore City	4,511	*	medium	1.3	2,872	Low
Queen Anne's	29	29	high	1.3	-	Low
Howard	94	15	medium	1.4	-	Low
Baltimore County	11,466	8,513	low	8.5	286	Low-Medium
Montgomery	12,385	3,006	low	11.3	7,351	Low-Medium
Washington	1,078	700	high	3.8	519	Medium
Cecil	1,146	211	medium	12.5	905	Medium
Frederick	2,175	*	medium	12.9	2,023	Medium
Prince George's	14,219	11,216[b]	low	14.4	13,564	Medium
Anne Arundel	15,327	7,818	low	29.3	7,311	Medium-High
Charles	3,902	1,203	medium	42.8	3,816	High
St. Mary's	2,632	703	medium	43.1	2,463	High
Harford	11,465	1,466	medium	47.3	11,006	High

* Defense related employment was lower in 1969 than in 1965.

a) Unemployment ranges: Low (0.0-3.0%); medium (3.1-5.0%); high (5.1% or higher).

b) Includes a new military hospital constructed and staffed during study period.

A medium vulnerability rating signifies that if a county were to lose all of its defense-related employment, the direct economic impact would be moderate, and such a county would be expected to experience at least some difficulty in adjusting to decreases in defense spending. Characteristically, the counties with medium ratings have concentrations of both civilian DOD employment and employment generated by prime defense contracts.

A high vulnerability rating signifies that if a county were to lose all of its defense-related employment, the direct economic impact would be significant, and substantial readjustment measures would be required. A preponderance of civilian DOD employment as a percentage of total county employment is a feature of the counties with high ratings.

With few exceptions, the counties clearly fit into the three groups. Obvious breaks in the data patterns, particularly those pertaining to the percent of county employment related to defense, tend to objectively reinforce the subjective grouping of the counties into different vulnerability levels. In three cases, some question arose as to which vulnerability group a particular county should be assigned. Each of these cases seem to indicate that the county under consideration had some characteristics of more than one vulnerability group. Consequently, three counties were treated as in-between cases and rated as "low-medium" or "medium-high."

A relative absence of defense related employment together with a low percentage of total county employment in defense related activities characterizes the group of counties assigned a low vulnerability. As can be seen in Table VIII-2, a total of fourteen counties, ranging from Allegany County with almost no defense activity, to Howard

County which had 1.4 percent of its total employment in defense related activities, received low vulnerability ratings. The data relating to the two criteria used to establish the low vulnerability rating appear to clearly set these fourteen counties apart from the rest of counties.

Medium-level vulnerability ratings were assigned primarily on the basis of the percent of the county's total employment related to defense and the county's unemployment level. Some favorable consideration was given to counties with lower civilian DOD employment levels.* Two counties, Baltimore County and Montgomery County, were rated as "low-medium" mainly because of their exceptionally low unemployment rates (Table VIII-2). Four counties, Washington County, Cecil County, Frederick County, and Prince George's County, were assigned "medium" ratings. Although Prince George's County had a very large increase in defense related employment from 1965 to 1969, a significant portion of this increase stems from the construction of a new military hospital facility located in the county. Since a significant number of persons are necessary to continually staff such an installation, a cut in defense spending is not likely to contribute greatly to any anticipated decrease in civilian DOD employment.

Anne Arundel County was classified as having a "medium-high" vulnerability rating, since its level of county defense related employment is transitional between those counties that can be considered as having a medium vulnerability and those counties with a high vulnerability rating. A very distinct break in the data pertaining to

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* It was felt that a given number of persons employed by prime defense contracts awarded to industry would create less of an employment problem than a similar number of civilian DOD workers displaced from their jobs.

percent of county employment related to defense (Table VIII-2) was the major reason for separating Anne Arundel County from those counties with either medium or high vulnerability ratings. Both defense generated employment and civilian DOD employment are well represented in the county. As is shown in Table VIII-2, an estimated 7,818 jobs would be lost in the county if defense related employment reverted to the 1965 level, and the economic impact would, of course, be substantial. Even if cuts in defense spending were more moderate, the repercussions are still likely to reflect significantly increased unemployment levels.

Three counties, Charles County, St. Mary's County, and Harford County, were assigned high vulnerability ratings. A high percentage of their total employment engaged as civilian workers for the Department of Defense was a prominent characteristic of each of these three counties. In addition, the 1969 unemployment rates in these three counties could all be classified as being of medium level. Although decreases in prime defense contract employment might have some effect on the local economies, the major vulnerability factor is the high level of civilian DOD employment category.

As has been implied earlier, civilian DOD employment generally presents more of a potential readjustment problem than defense generated employment for the following reasons:

1. At the State level and within numerous counties there are many more workers in the civilian DOD employment category than in the defense generated employment category.

2. The magnitude of an employment cut at a military base is likely to be greater and the effects of longer duration than any single employment reduction in private industry.*

3. The available information suggests that some cutbacks in prime defense contracts have already been initiated in Maryland without materially increasing unemployment rates.

The locational situation of the three counties, Charles County, St. Mary's County, and Harford County with high vulnerability ratings presents an additional potential readjustment problem. If civilians do lose their jobs at military installations, what are the alternative employment opportunities? Alternative job opportunities for displaced workers are not likely to be readily found in any of the three counties. Consequently, many workers will have to depend on the more metropolitan and industrial counties to provide new sources of employment. Unfortunately, too little is known about journey to work patterns in Maryland to make any definitive statements about the preferences of displaced workers.

The effect of a defense cutback on Charles and St. Mary's Counties could raise the local unemployment rates considerably unless a strategy is developed to assist displaced workers in finding new jobs in other counties. The impact of a potential civilian DOD employment cutback in Harford County would likely be more moderate, since many of the workers in defense installations commute to work from other counties.

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* As an example, Fort Holabird, located in Baltimore, is scheduled to be closed. The closedown will directly affect 1,530 civilian employees. See, "U. S. to Close or Cut 371 More Bases," The Washington Post, March 5, 1970.

Clearly, civilian DOD employees are the persons with the highest likelihood of directly suffering job losses from reductions in defense spending. Some indication of the indirect and longer run effects of defense budget cuts can be inferred from an understanding of the employment and economic situations that developed during the Vietnam War build-up.

During the study period, Maryland shared generously in the prosperity of the Nation. One important component of this prosperity was the generally low unemployment rate in Maryland. As the labor supply decreased in size, firms expanding their operations experienced difficulty in recruiting employees that met their existing skill requirements. In an effort to enlarge the supply of available workers many firms initiated training programs for disadvantaged workers and/or the "hard core" unemployed. These projects have been developed in Maryland primarily to attract metropolitan inner-city dwellers. It is apparent that reductions in defense spending in Maryland will result in some noticeable increased in unemployment. As the unemployment rate rises, the size of the available labor supply will grow, and workers with better occupational qualifications than those in the disadvantaged category will be competing on the job market.*

Other types of employment problems are likely to arise as decreases in defense spending occur. The information contained in this report should prove useful in the formulation of public policies and programs designed to meet these employment problems. Certain such public policies and programs are proposed in the final chapter.

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* One study, conducted jointly by the University of Pennsylvania and Morgan State College, suggests that job opportunities for the disadvantaged citizen are likely to diminish as the Vietnam war is resolved. The study revealed that a great majority of employers sampled felt that the main effect of a lessening of hostilities in Vietnam would be that they would then be able to hire better quality workers. See: The Maryland Comprehensive Manpower Plan, Fiscal Year 1970, Part A.

IX. RECOMMENDATIONS

I. The State should develop the means to continually receive and analyse all relevant current data on private and governmental contracts relating to defense-oriented production. More knowledge of the effects of defense spending in Maryland will be necessary to treat specific kinds of problems resulting from changes in defense expenditures.

II. The Maryland Department of Employment Security should explore the possibility of developing data on the occupational composition of defense employment to supplement ongoing studies of the demand for specific manpower needs in the State. An assessment of the potential supply of labor is a requisite to the planning of any strategy to assist displaced workers in finding new jobs. Such information would be essential to the planning and preparation of appropriate job training programs.

III. The Maryland Department of Employment Security should establish temporary field employment offices at military installations which are scheduled to reduce operation or to close. Ample evidence points to the fact that the greatest potential readjustment problems will result from civilian Department of Defense employment. Ready accessibility to reemployment information can greatly facilitate the adjustment process for this group of workers.

IV. A priority list of federal, State and local projects which can be accelerated in the face of a decline in defense-related employment should be developed. Highest on this list should be those projects which will not only boost a local economy in the short run, but will also provide impetus for new sources of economic activity in the area. Quite likely, areas incurring substantial increases in unemployment as a result of decreased defense spending will be able to tap federal funds to finance development projects.

V. Local areas that exhibit a high vulnerability to cutbacks in defense spending should establish a committee to develop and coordinate readjustment programs at the local level. The local areas should play an active role in deciding what readjustment programs and opportunities are best suited to the overall development of their specific area.

VI. The Department of Defense Office of Economic Adjustment should be solicited to assist local areas in the development of readjustment objectives. Although the Office of Economic Adjustment does not directly provide funds to local areas, it has developed experience in aiding distressed areas to apply for assistance from other federal agencies.

APPENDIX A

Hypothetical example of estimation of employment from prime defense contract data.

1. Example of Department of Defense contract listings:

SIC (added)	Company	County	Contract Value
28	Jones Chemical Company	A	$220,000
28	Smith Sulfur Company	A	80,000
28	Williams Chemical Company	B	50,000

2. By agglomerating by county and industry

SIC	County	Contract Value
28	A	$300,000

3. From other data sources:

SIC	Total Employment	Value of Shipments
28	3,000	$150,000,000

4. If,

$$\frac{\text{Value of Shipments}}{\text{Total Employment}} = \text{Value of Shipments per worker}$$

or,

$$\frac{\$150,000,000}{3,000} = \$50,000 \text{ per worker}$$

5. Since "Value of Shipments" is similar to "Contract Value," we may substitute:

$$\frac{\text{Value of Shipments}}{\text{Total Employment}} = \text{Contract Value per worker}$$

or,

$$\frac{\$150,000,000}{3,000} = \$50,000 \text{ per worker Contract Value.}$$

6. And, since

$$\frac{\text{Contract Value}}{\text{per worker value}} = \text{number of workers employed in Industry (28) in County (A)}$$

then

$$\frac{\$300,000}{\$50,000} = \text{6 workers employed in Industry 28 in County A.}$$

Although it is not uncommon for the prime contractor to award subcontracts, lack of data prevents us from including subcontracting in the analysis. Therefore, the prime contractors dealt with in this study are statistically treated as if they carried on all aspects of the contracted production of goods and/or services. It is fully recognized that the exclusion of subcontracting from the report may result in errors in the estimation and interpretation of defense generated employment.

APPENDIX B

ESTIMATED DEFENSE GENERATED EMPLOYMENT IN MARYLAND: 1965-1969

The following estimates of defense generated employment are presented for each county, as well as for the State as a whole. The estimating procedure is based on the methodology described in Appendix A.

Care should be taken when interpreting the smaller employment figures. As is the case with many types of estimation, the smaller figures are probably less accurate, relatively speaking, than the larger figures.

ESTIMATED DEFENSE GENERATED EMPLOYMENT
IN MARYLAND: (1965-1969)

Industry	1965	1966	1967	1968	1969
Agri., For., Fish. (SIC 01 & 07)	28	29	22	36	28
Contract Construction (SIC 15-17)	441	671	571	525	380
Manufacturing (Subtotal)	20,626	30,088	28,027	18,457	24,635
19 Ord. & Acces.	4,385	2,633	3,700	4,374	9,001
20 Food & Kind. Prod.	249	318	256	209	151
22 Textile Mill Prod.	31	80	67	45	25
23 Apparel & Fin. Prod.	156	420	274	176	121
24 Lumb. & Wood Prod.	5	1	9	29	2
25 Furn. & Fix.	13	37	15	11	10
26 Paper & Paper Prod.	2	8	25	9	30
27 Prtg., Pub., etc.	102	215	798	108	947
28 Chemicals, etc.	214	233	144	38	88
29 Petr. Refining	7	13	5	7	4
30 Rub. & Misc. Plas. Prod.	318	640	495	243	390
31 Leath. & L. Prod.	24	415	1,283	169	288
32 Stone, Clay & Glass	85	154	12	403	4
33 Primary Metals	1,304	1,300	201	484	55
34 Fab. Metal Prod.	1,799	706	529	694	422
35 Mach. except Elec.	2,844	6,436	6,860	2,993	3,607
36 Elec. Mach.	7,855	12,263	10,454	5,516	7,869
37 Transp. Equip.	976	2,666	2,027	2,150	953
38 Instruments	249	1,546	863	781	657
39 Misc. Mfg.	8	4	10	18	11
Trans., Comm. & Utilities (SIC 40-49)	158	109	116	114	115
Wholesale Trade (SIC 50)	225	276	181	333	227
Retail Trade (SIC 52-59)	349	161	262	538	126
Finance, Ins. & R. E. (SIC 60-67)					
Services (SIC 70-89)	1,847	1,945	2,573	2,519	2,603
Research & Development (SIC 73)	1,805	1,903	2,535	2,457	2,550
Government (SIC 91 & 92)	11	7	12	14	16
Not Known	616	783	808	1,058	355
Total	24,301	34,069	32,572	23,594	28,485
Value of Contracts (In $000'S)	597,633	838,601	861,824	709,828	732,795

ESTIMATED DEFENSE GENERATED EMPLOYMENT
IN ALLEGANY COUNTY: (1965-1969)

Industry	1965	1966	1967	1968	1969
Agri., For., Fish. (SIC 01 & 07)					
Contract Construction (SIC 15-17)					1
Manufacturing (Subtotal)	12		-11		
19 Ord. & Acces.	6		-18		
20 Food & Kind. Prod.					
22 Textile Mill Prod.					
23 Apparel & Fin. Prod.					
24 Lumb. & Wood Prod.					
25 Furn. & Fix.			1		
26 Paper & Paper Prod.					
27 Prtg., Pub., etc.					
28 Chemicals, etc.					
29 Petr. Refining	1				
30 Rub. & Misc. Plas. Prod.		1	6		
31 Leath. & L. Prod.					
32 Stone, Clay & Glass					
33 Primary Metals					
34 Fab. Metal Prod.					
35 Mach. except Elec.					
36 Elec. Mach.					
37 Transp. Equip.	1				
38 Instruments	4				
39 Misc. Mfg.					
Trans., Comm. & Utilities (SIC 40-49)	3				
Wholesale Trade (SIC 50)					
Retail Trade (SIC 52-59)			1		
Finance, Ins. & R. E. (SIC 60-67)					
Services (SIC 70-89)					
Research & Development (SIC 73)					
Government (SIC 91 & 92)					
Not Known					
Total	15	1	-10		1
Value of Contracts (In $000'S)	409	24	-226		47

ESTIMATED DEFENSE GENERATED EMPLOYMENT
IN ANNE ARUNDEL COUNTY: (1965-1969)

Industry	1965	1966	1967	1968	1969
Agri., For., Fish. (SIC 01 & 07)		1		1	2
Contract Construction (SIC 15-17)	80	289	136	213	108
Manufacturing (Subtotal)	1,104	1,489	2,347	2,823	7,667
19 Ord. & Acces.	1,002	1,201	2,000	2,500	7,000
20 Food & Kind. Prod.					
22 Textile Mill Prod.					
23 Apparel & Fin. Prod.					
24 Lumb. & Wood Prod.					
25 Furn. & Fix.	1	2	1	2	2
26 Paper & Paper Prod.					
27 Prtg., Pub., etc.				2	1
28 Chemicals, etc.	1		1	6	1
29 Petr. Refining	1		1		1
30 Rub. & Misc. Plas. Prod.					
31 Leath. & L. Prod.					
32 Stone, Clay & Glass				8	
33 Primary Metals		4			
34 Fab. Metal Prod.	1	112	11	7	9
35 Mach. except Elec.	2	3	3	3	3
36 Elec. Mach.	73	35	14	80	521
37 Transp. Equip.	14	83	149	5	3
38 Instruments	9	49	167	209	125
39 Misc. Mfg.				1	1
Trans., Comm. & Utilities (SIC 40-49)	24	7	30	36	23
Wholesale Trade (SIC 50)	18	16	11	7	1
Retail Trade (SIC 52-59)	237	31	4	26	15
Finance, Ins. & R. E. (SIC 60-67)					
Services (SIC 70-89)	210	123	127	250	168
Research & Development (SIC 73)	205	120	124	239	140
Government (SIC 91 & 92)	1		-1		
Not Known	151	88	134	93	32
Total	1,825	2,044	2,788	3,449	8,016
Value of Contracts (In $000'S)	27,448	33,765	33,330	56,859	43,012

ESTIMATED DEFENSE GENERATED EMPLOYMENT
IN BALTIMORE COUNTY: (1965-1969)

Industry	1965	1966	1967	1968	1969
Agri., For., Fish. (SIC 01 & 07)	1	1			
Contract Construction (SIC 15-17)	2	10		7	1
Manufacturing (Subtotal)	2,605	5,856	3,783	3,201	11,030
19 Ord. & Acces.	843	1,251	1,473	1,628	1,780
20 Food & Kind. Prod.	2	2			2
22 Textile Mill Prod.		36	42	38	5
23 Apparel & Fin. Prod.			128		1
24 Lumb. & Wood Prod.					
25 Furn. & Fix.					
26 Paper & Paper Prod.			6	5	
27 Prtg., Pub., etc.		76			
28 Chemicals, etc.		1	1	1	1
29 Petr. Refining					
30 Rub. & Misc. Plas. Prod.	2	9	8	3	56
31 Leath. & L. Prod.					
32 Stone, Clay & Glass		-2			
33 Primary Metals	232	1,218	110	293	34
34 Fab. Metal Prod.	298	42	13	17	63
35 Mach. except Elec.	178	223	581	260	3,233
36 Elec. Mach.	752	1,446	1,111	618	5,054
37 Transp. Equip.	298	890	147	213	401
38 Instruments		663	163	119	400
39 Misc. Mfg.		1		6	
Trans., Comm. & Utilities (SIC 40-49)		22			
Wholesale Trade (SIC 50)		-5	6	1	5
Retail Trade (SIC 52-59)	10	33	114	16	10
Finance, Ins. & R. E. (SIC 60-67)					
Services (SIC 70-89)	34	46	52	68	91
Research & Development (SIC 73)	32	46	52	68	90
Government (SIC 91 & 92)		1	1		1
Not Known	47	81	73	137	42
Total	2,699	6,045	4,029	3,430	11,180
Value of Contracts (In $000'S)	48,686	145,095	71,081	59,266	292,618

ESTIMATED DEFENSE GENERATED EMPLOYMENT
IN BALTIMORE CITY: (1965-1969)

Industry	1965	1966	1967	1968	1969
Agri., For., Fish. (SIC 01 & 07)	18	12	12	30	14
Contract Construction (SIC 15-17)	45	21	17	10	13
Manufacturing (Subtotal)	13,836	16,958	16,590	7,531	1,321
19 Ord. & Acces.	2,428	19	11	18	9
20 Food & Kind. Prod.	132	152	115	67	65
22 Textile Mill Prod.	31	37	1		
23 Apparel & Fin. Prod.	30	189	75	14	53
24 Lumb. & Wood Prod.	3	1	3	2	2
25 Furn. & Fix.	12	35	13	6	6
26 Paper & Paper Prod.	1	6	14	4	30
27 Prtg., Pub., etc.	5	19	117	6	1
28 Chemicals, etc.	153	161	127	19	77
29 Petr. Refining	1	1			
30 Rub. & Misc. Plas. Prod.	298	355	470	236	332
31 Leath. & L. Prod.					
32 Stone, Clay & Glass	63	141	3	228	-3
33 Primary Metals	1,036	54	1	168	14
34 Fab. Metal Prod.	1,311	405	351	357	323
35 Mach. except Elec.	2,637	5,947	6,052	2,169	94
36 Elec. Mach.	5,116	7,478	7,773	3,066	258
37 Transp. Equip.	562	1,451	1,063	938	37
38 Instruments	17	506	392	233	17
39 Misc. Mfg.		1	9		6
Trans., Comm. & Utilities (SIC 40-49)	106	28	38	49	5
Wholesale Trade (SIC 50)	150	97	42	97	114
Retail Trade (SIC 52-59)	42	41	61	194	22
Finance, Ins. & R. E. (SIC 60-67)					
Services (SIC 70-89)	124	103	180	131	113
Research & Development (SIC 73)	120	97	170	119	103
Government (SIC 91 & 92)	2	2	3	2	1
Not Known	10	43	20	47	36
Total	14,333	17,305	16,963	8,091	1,639
Value of Contracts (In $000'S)	344,127	408,067	445,539	241,243	61,555

ESTIMATED DEFENSE GENERATED EMPLOYMENT
IN CALVERT COUNTY: (1965-1969)

Industry	1965	1966	1967	1968	1969
Agri., For., Fish. (SIC 01 & 07)		4		1	1
Contract Construction (SIC 15-17)		1		7	
Manufacturing (Subtotal)	1		1		
19 Ord. & Acces.					
20 Food & Kind. Prod.					
22 Textile Mill Prod.					
23 Apparel & Fin. Prod.					
24 Lumb. & Wood Prod.					
25 Furn. & Fix.					
26 Paper & Paper Prod.					
27 Prtg., Pub., etc.					
28 Chemicals, etc.					
29 Petr. Refining					
30 Rub. & Misc. Plas. Prod.					
31 Leath. & L. Prod.					
32 Stone, Clay & Glass					
33 Primary Metals					
34 Fab. Metal Prod.					
35 Mach. except Elec.					
36 Elec. Mach.			1		
37 Transp. Equip.	1				
38 Instruments					
39 Misc. Mfg.					
Trans., Comm. & Utilities (SIC 40-49)					
Wholesale Trade (SIC 50)	1	2	2	2	2
Retail Trade (SIC 52-59)					5
Finance, Ins. & R. E. (SIC 60-67)					
Services (SIC 70-89)					
Research & Development (SIC 73)					
Government (SIC 91 & 92)					
Not Known		1	7	1	
Total	2	8	10	11	8
Value of Contracts (In $000'S)	87	259	257	537	96

ESTIMATED DEFENSE GENERATED EMPLOYMENT
IN CAROLINE COUNTY: (1965-1969)

Industry	1965	1966	1967	1968	1969
Agri., For., Fish. (SIC 01 & 07)	3	3	2		1
Contract Construction (SIC 15-17)				1	
Manufacturing (Subtotal)	17	16	10	6	1
19 Ord. & Acces.					
20 Food & Kind. Prod.	14	15	9	4	
22 Textile Mill Prod.					
23 Apparel & Fin. Prod.					
24 Lumb. & Wood Prod.					
25 Furn. & Fix.					
26 Paper & Paper Prod.					
27 Prtg., Pub., etc.					
28 Chemicals, etc.					
29 Petr. Refining					
30 Rub. & Misc. Plas. Prod.		1	1	2	1
31 Leath. & L. Prod.					
32 Stone, Clay & Glass					
33 Primary Metals					
34 Fab. Metal Prod.					
35 Mach. except Elec.					
36 Elec. Mach.					
37 Transp. Equip.					
38 Instruments	2				
39 Misc. Mfg.	1				
Trans., Comm. & Utilities (SIC 40-49)					
Wholesale Trade (SIC 50)					
Retail Trade (SIC 52-59)					
Finance, Ins. & R. E. (SIC 60-67)					
Services (SIC 70-89)					
Research & Development (SIC 73)					
Government (SIC 91 & 92)					
Not Known		1			
Total	20	20	12	7	2
Value of Contracts (In $000'S)	660	748	576	306	45

ESTIMATED DEFENSE GENERATED EMPLOYMENT
IN CARROLL COUNTY: (1965-1969)

Industry	1965	1966	1967	1968	1969
Agri., For., Fish. (SIC 01 & 07)					
Contract Construction (SIC 15-17)		1			1
Manufacturing (Subtotal)	12	37	10	20	82
19 Ord. & Acces.					
20 Food & Kind. Prod.	6	8	2	4	3
22 Textile Mill Prod.					
23 Apparel & Fin. Prod.					
24 Lumb. & Wood Prod.					
25 Furn. & Fix.					
26 Paper & Paper Prod.					
27 Prtg., Pub., etc.					
28 Chemicals, etc.					
29 Petr. Refining					
30 Rub. & Misc. Plas. Prod.	6	9	4		
31 Leath. & L. Prod.					
32 Stone, Clay & Glass				2	
33 Primary Metals					3
34 Fab. Metal Prod.					6
35 Mach. except Elec.		3	1	1	
36 Elec. Mach.			3	12	13
37 Transp. Equip.		17			57
38 Instruments				1	
39 Misc. Mfg.					
Trans., Comm. & Utilities (SIC 40-49)					1
Wholesale Trade (SIC 50)					
Retail Trade (SIC 52-59)					
Finance, Ins. & R. E. (SIC 60-67)					
Services (SIC 70-89)					
Research & Development (SIC 73)					
Government (SIC 91 & 92)					
Not Known					
Total	12	38	10	20	84
Value of Contracts (In $000'S)	321	1,234	241	616	546

ESTIMATED DEFENSE GENERATED EMPLOYMENT
IN CECIL COUNTY: (1965-1969)

Industry	1965	1966	1967	1968	1969
Agri., For., Fish. (SIC 01 & 07)		1	1		
Contract Construction (SIC 15-17)	64	126	14	17	2
Manufacturing (Subtotal)	219	308	487	494	212
19 Ord. & Acces.	100	121	300	227	210
20 Food & Kind. Prod.					
22 Textile Mill Prod.		7	24	7	
23 Apparel & Fin. Prod.					
24 Lumb. & Wood Prod.				2	
25 Furn. & Fix.					
26 Paper & Paper Prod.					
27 Prtg., Pub., etc.					
28 Chemicals, etc.	43	50			
29 Petr. Refining					
30 Rub. & Misc. Plas. Prod.					
31 Leath. & L. Prod.					
32 Stone, Clay & Glass					
33 Primary Metals	9	16	84	15	
34 Fab. Metal Prod.		77	3	57	
35 Mach. except Elec.		1		14	
36 Elec. Mach.	51	1			1
37 Transp. Equip.	16	35	76	166	
38 Instruments				6	
39 Misc. Mfg.					1
Trans., Comm. & Utilities (SIC 40-49)	1				
Wholesale Trade (SIC 50)	12		5	1	4
Retail Trade (SIC 52-59)	1	7			
Finance, Ins. & R. E. (SIC 60-67)					
Services (SIC 70-89)	12	17	17	17	20
Research & Development (SIC 73)	11	14	17	17	20
Government (SIC 91 & 92)					
Not Known	4	17	1	59	3
Total	313	476	525	588	241
Value of Contracts (In $000'S)	9,343	6,846	8,459	17,867	9,546

ESTIMATED DEFENSE GENERATED EMPLOYMENT
IN CHARLES COUNTY: (1965-1969)

Industry	1965	1966	1967	1968	1969
Agri., For., Fish. (SIC 01 & 07)					
Contract Construction (SIC 15-17)	64	14	18	17	11
Manufacturing (Subtotal)	219	1	6	27	9
19 Ord. & Acces.	100				
20 Food & Kind. Prod.					
22 Textile Mill Prod.					
23 Apparel & Fin. Prod.					
24 Lumb. & Wood Prod.			5	25	
25 Furn. & Fix.					
26 Paper & Paper Prod.					
27 Prtg., Pub., etc.					
28 Chemicals, etc.	43			1	
29 Petr. Refining					
30 Rub. & Misc. Plas. Prod.					
31 Leath. & L. Prod.					
32 Stone, Clay & Glass				1	
33 Primary Metals	9				
34 Fab. Metal Prod.		1			
35 Mach. except Elec.					2
36 Elec. Mach.	51				
37 Transp. Equip.	16				
38 Instruments			1		7
39 Misc. Mfg.					
Trans., Comm. & Utilities (SIC 40-49)	1		1	1	
Wholesale Trade (SIC 50)	12		1		3
Retail Trade (SIC 52-59)	1	1		2	5
Finance, Ins. & R. E. (SIC 60-67)					
Services (SIC 70-89)	12	2	3	9	6
Research & Development (SIC 73)	11	2	2	4	6
Government (SIC 91 & 92)					
Not Known	4	135	52	7	52
Total	313	153	81	63	86
Value of Contracts (In $000'S)	2,318	4,225	2,704	2,660	3,365

ESTIMATED DEFENSE GENERATED EMPLOYMENT
IN DORCHESTER COUNTY: (1965-1969)

Industry	1965	1966	1967	1968	1969
Agri., For., Fish. (SIC 01 & 07)					
Contract Construction (SIC 15-17)					
Manufacturing (Subtotal)	34	62	37	38	12
19 Ord. & Acces.					
20 Food & Kind. Prod.	11	49	14	26	2
22 Textile Mill Prod.					
23 Apparel & Fin. Prod.					
24 Lumb. & Wood Prod.					
25 Furn. & Fix.					
26 Paper & Paper Prod.			5		
27 Prtg., Pub., etc.					
28 Chemicals, etc.					
29 Petr. Refining					
30 Rub. & Misc. Plas. Prod.					
31 Leath. & L. Prod.					
32 Stone, Clay & Glass					
33 Primary Metals	17	1	3	2	1
34 Fab. Metal Prod.			2		
35 Mach. except Elec.		1	4	2	1
36 Elec. Mach.	4	8	9	8	8
37 Transp. Equip.	1				
38 Instruments	1	1			
39 Misc. Mfg.					
Trans., Comm. & Utilities (SIC 40-49)					20
Wholesale Trade (SIC 50)				68	
Retail Trade (SIC 52-59)			45		
Finance, Ins. & R. E. (SIC 60-67)					
Services (SIC 70-89)					
Research & Development (SIC 73)					
Government (SIC 91 & 92)					
Not Known	4	3			
Total	38	65	82	106	32
Value of Contracts (In $000'S)	1,138	2,248	2,972	3,681	2,470

ESTIMATED DEFENSE GENERATED EMPLOYMENT
IN FREDERICK COUNTY: (1965-1969)

Industry	1965	1966	1967	1968	1969
Agri., For., Fish. (SIC 01 & 07)		1	1	1	1
Contract Construction (SIC 15-17)	19	31	148	21	28
Manufacturing (Subtotal)	70	74	191	112	82
19 Ord. & Acces.					
20 Food & Kind. Prod.	16	9	29	15	16
22 Textile Mill Prod.					
23 Apparel & Fin. Prod.		1			
24 Lumb. & Wood Prod.					
25 Furn. & Fix.					
26 Paper & Paper Prod.					
27 Prtg., Pub., etc.					
28 Chemicals, etc.				1	
29 Petr. Refining	1	2			
30 Rub. & Misc. Plas. Prod.					
31 Leath. & L. Prod.	24	10	58	61	34
32 Stone, Clay & Glass	5			2	
33 Primary Metals			1	1	
34 Fab. Metal Prod.	2	1		1	2
35 Mach. except Elec.	3	6	28	5	3
36 Elec. Mach.	19	18	71	18	24
37 Transp. Equip.					
38 Instruments		27	4	8	3
39 Misc. Mfg.					
Trans., Comm. & Utilities (SIC 40-49)	8	10	8	8	6
Wholesale Trade (SIC 50)	1		1	5	1
Retail Trade (SIC 52-59)		11	6		20
Finance, Ins. & R. E. (SIC 60-67)					
Services (SIC 70-89)		14	16	11	9
Research & Development (SIC 73)			16	10	8
Government (SIC 91 & 92)	1				
Not Known	4	12	9	12	3
Total	103	153	381	170	150
Value of Contracts (In $000'S)	3,050	5,295	15,416	4,673	6,024

ESTIMATED DEFENSE GENERATED EMPLOYMENT
IN GARRETT COUNTY: (1965-1969)

Industry	1965	1966	1967	1968	1969
Agri., For., Fish. (SIC 01 & 07)					
Contract Construction (SIC 15-17)	2	1	1	1	2
Manufacturing (Subtotal)	2				
19 Ord. & Acces.					
20 Food & Kind. Prod.					
22 Textile Mill Prod.					
23 Apparel & Fin. Prod.					
24 Lumb. & Wood Prod.	2				
25 Furn. & Fix.					
26 Paper & Paper Prod.					
27 Prtg., Pub., etc.					
28 Chemicals, etc.					
29 Petr. Refining					
30 Rub. & Misc. Plas. Prod.					
31 Leath. & L. Prod.					
32 Stone, Clay & Glass					
33 Primary Metals					
34 Fab. Metal Prod.					
35 Mach. except Elec.					
36 Elec. Mach.					
37 Transp. Equip.					
38 Instruments					
39 Misc. Mfg.					
Trans., Comm. & Utilities (SIC 40-49)					
Wholesale Trade (SIC 50)					
Retail Trade (SIC 52-59)					
Finance, Ins. & R. E. (SIC 60-67)					
Services (SIC 70-89)			1		
Research & Development (SIC 73)			1		
Government (SIC 91 & 92)					
Not Known					
Total	4	1	2	1	2
Value of Contracts (In $000'S)	81	17	119	13	106

ESTIMATED DEFENSE GENERATED EMPLOYMENT
IN HARFORD COUNTY: (1965-1969)

Industry	1965	1966	1967	1968	1969
Agri., For., Fish. (SIC 01 & 07)	2	1	1		3
Contract Construction (SIC 15-17)	145	36	139	13	68
Manufacturing (Subtotal)	21	728	1,329	165	297
19 Ord. & Acces.					
20 Food & Kind. Prod.	1	1	1		
22 Textile Mill Prod.					
23 Apparel & Fin. Prod.					1
24 Lumb. & Wood Prod.					
25 Furn. & Fix.					
26 Paper & Paper Prod.					
27 Prtg., Pub., etc.		2	1		
28 Chemicals, etc.		3	1	3	2
29 Petr. Refining		4		1	
30 Rub. & Misc. Plas. Prod.		264	2		
31 Leath. & L. Prod.		415	1,225	108	254
32 Stone, Clay & Glass	2	1			1
33 Primary Metals	6	3		3	3
34 Fab. Metal Prod.	1	2	82	12	1
35 Mach. except Elec.			1		
36 Elec. Mach.	1	31	6	28	8
37 Transp. Equip.	7	1	9		24
38 Instruments	4	1	1	1	2
39 Misc. Mfg.				9	1
Trans., Comm. & Utilities (SIC 40-49)	7	17	16	1	14
Wholesale Trade (SIC 50)	7	13	6	14	10
Retail Trade (SIC 52-59)	18	4	8	63	7
Finance, Ins. & R. E. (SIC 60-67)					
Services (SIC 70-89)	34	76	25	38	25
Research & Development (SIC 73)	15	54	22	25	21
Government (SIC 91 & 92)					
Not Known	136	33	217	14	35
Total	370	908	1,741	308	459
Value of Contracts (In $000'S)	14,055	21,866	38,196	7,662	15,101

ESTIMATED DEFENSE GENERATED EMPLOYMENT
IN HOWARD COUNTY: (1965-1969)

Industry	1965	1966	1967	1968	1969
Agri., For., Fish. (SIC 01 & 07)					
Contract Construction (SIC 15-17)		2			1
Manufacturing (Subtotal)	79	168	61	223	90
19 Ord. & Acces.					
20 Food & Kind. Prod.	1				
22 Textile Mill Prod.					20
23 Apparel & Fin. Prod.	59	137		148	35
24 Lumb. & Wood Prod.					
25 Furn. & Fix.					
26 Paper & Paper Prod.					
27 Prtg., Pub., etc.					
28 Chemicals, etc.	11	6	8	7	5
29 Petr. Refining	1	1			
30 Rub. & Misc. Plas. Prod.					
31 Leath. & L. Prod.					
32 Stone, Clay & Glass					
33 Primary Metals					
34 Fab. Metal Prod.				1	
35 Mach. except Elec.	1	12	1	3	
36 Elec. Mach.	6	12	52	64	30
37 Transp. Equip.					
38 Instruments					
39 Misc. Mfg.					
Trans., Comm. & Utilities (SIC 40-49)					
Wholesale Trade (SIC 50)					1
Retail Trade (SIC 52-59)					1
Finance, Ins. & R. E. (SIC 60-67)					
Services (SIC 70-89)		1	1		1
Research & Development (SIC 73)		1	1		1
Government (SIC 91 & 92)					
Not Known		3		1	
Total	79	174	62	224	94
Value of Contracts (In $000'S)	1,215	2,466	1,596	4,777	2,401

ESTIMATED DEFENSE GENERATED EMPLOYMENT
IN KENT COUNTY: (1965-1969)

Industry	1965	1966	1967	1968	1969
Agri., For., Fish. (SIC 01 & 07)					
Contract Construction (SIC 15-17)	12		1	1	1
Manufacturing (Subtotal)	5	12	6	1	4
19 Ord. & Acces.					
20 Food & Kind. Prod.					
22 Textile Mill Prod.					
23 Apparel & Fin. Prod.					
24 Lumb. & Wood Prod.					
25 Furn. & Fix.					
26 Paper & Paper Prod.					
27 Prtg., Pub., etc.					3
28 Chemicals, etc.	3	8	2		1
29 Petr. Refining		4	1	1	
30 Rub. & Misc. Plas. Prod.					
31 Leath. & L. Prod.					
32 Stone, Clay & Glass					
33 Primary Metals					
34 Fab. Metal Prod.					
35 Mach. except Elec.					
36 Elec. Mach.					
37 Transp. Equip.	2				
38 Instruments			3		
39 Misc. Mfg.					
Trans., Comm. & Utilities (SIC 40-49)					
Wholesale Trade (SIC 50)		1	28	88	16
Retail Trade (SIC 52-59)	1	1			1
Finance, Ins. & R. E. (SIC 60-67)					
Services (SIC 70-89)	9	10	1	2	1
Research & Development (SIC 73)	9	10	1	2	1
Government (SIC 91 & 92)					
Not Known		4		3	1
Total	27	28	37	95	24
Value of Contracts (In $000'S)	1,365	1,327	1,168	2,670	627

ESTIMATED DEFENSE GENERATED EMPLOYMENT
IN MONTGOMERY COUNTY: (1965-1969)

Industry	1965	1966	1967	1968	1969
Agri., For., Fish. (SIC 01 & 07)		2			
Contract Construction (SIC 15-17)	16	33	12	175	20
Manufacturing (Subtotal)	1,586	3,486	2,119	2,096	3,006
19 Ord. & Acces.	19	37	-3	1	1
20 Food & Kind. Prod.	1		1	1	1
22 Textile Mill Prod.					
23 Apparel & Fin. Prod.					
24 Lumb. & Wood Prod.					
25 Furn. & Fix.				1	1
26 Paper & Paper Prod.					
27 Prtg., Pub., etc.	6	26	639	93	894
28 Chemicals, etc.	2	2	4	2	1
29 Petr. Refining		1		1	1
30 Rub. & Misc. Plas. Prod.	10	1	2	1	1
31 Leath. & L. Prod.					
32 Stone, Clay & Glass	12		4	144	1
33 Primary Metals		3	1	1	
34 Fab. Metal Prod.	2	8	4	2	2
35 Mach. except Elec.	14	125	28	112	131
36 Elec. Mach.	1,294	3,031	1,282	1,525	1,856
37 Transp. Equip.	15		51	23	32
38 Instruments	206	251	105	187	82
39 Misc. Mfg.	5	1	1	2	2
Trans., Comm. & Utilities (SIC 40-49)	1			1	1
Wholesale Trade (SIC 50)	5	125	57	9	64
Retail Trade (SIC 52-59)	8	26	14	84	15
Finance, Ins. & R. E. (SIC 60-67)					
Services (SIC 70-89)	1,360	1,461	1,846	1,748	1,848
Research & Development (SIC 73)	1,356	3	1,841	1,742	1,846
Government (SIC 91 & 92)	1	2	7	9	11
Not Known	173	66	65	321	69
Total	3,150	5,201	4,120	4,443	5,034
Value of Contracts (In $000'S)	112,318	161,538	171,659	215,261	226,019

ESTIMATED DEFENSE GENERATED EMPLOYMENT
IN PRINCE GEORGE'S COUNTY: (1965-1969)

Industry	1965	1966	1967	1968	1969
Agri., For., Fish. (SIC 01 & 07)	3		2		1
Contract Construction (SIC 15-17)	26	94	75	25	24
Manufacturing (Subtotal)	85	438	249	453	236
19 Ord. & Acces.	-1	3	-3		1
20 Food & Kind. Prod.	25	15	34	70	46
22 Textile Mill Prod.					
23 Apparel & Fin. Prod.					
24 Lumb. & Wood Prod.			1		
25 Furn. & Fix.				2	
26 Paper & Paper Prod.	1				
27 Prtg., Pub., etc.	87	89	36	7	40
28 Chemicals, etc.	1				
29 Petr. Refining	1		1	1	1
30 Rub. & Misc. Plas. Prod.			2	1	
31 Leath. & L. Prod.					
32 Stone, Clay & Glass		4	5	17	5
33 Primary Metals					
34 Fab. Metal Prod.	182	55	57	228	13
35 Mach. except Elec.	2	25		1	5
36 Elec. Mach.	539	148	43	88	93
37 Transp. Equip.	12	56	56	31	15
38 Instruments	2	43	17	7	17
39 Misc. Mfg.					
Trans., Comm. & Utilities (SIC 40-49)	3	20	22	15	42
Wholesale Trade (SIC 50)	9	27	21	33	
Retail Trade (SIC 52-59)	17	2	7	67	3
Finance, Ins. & R. E. (SIC 60-67)					
Services (SIC 70-89)	50	81	299	223	291
Research & Development (SIC 73)	50	79	288	217	287
Government (SIC 91 & 92)	6	2	2	3	3
Not Known	27	255	191	190	55
Total	992	919	868	1,009	655
Value of Contracts (In $000'S)	24,317	28,498	39,054	41,377	38,173

ESTIMATED DEFENSE GENERATED EMPLOYMENT
IN QUEEN ANNE'S COUNTY: (1965-1969)

Industry	1965	1966	1967	1968	1969
Agri., For., Fish. (SIC 01 & 07)					
Contract Construction (SIC 15-17)					
Manufacturing (Subtotal)	-1		34	8	2
19 Ord. & Acces.			33		
20 Food & Kind. Prod.					
22 Textile Mill Prod.					
23 Apparel & Fin. Prod.					
24 Lumb. & Wood Prod.					
25 Furn. & Fix.					
26 Paper & Paper Prod.					
27 Prtg., Pub., etc.					
28 Chemicals, etc.					
29 Petr. Refining					
30 Rub. & Misc. Plas. Prod.					
31 Leath. & L. Prod.					
32 Stone, Clay & Glass					
33 Primary Metals					
34 Fab. Metal Prod.					
35 Mach. except Elec.					
36 Elec. Mach.	-1		1	8	1
37 Transp. Equip.					1
38 Instruments		1			
39 Misc. Mfg.					
Trans., Comm. & Utilities (SIC 40-49)					
Wholesale Trade (SIC 50)					
Retail Trade (SIC 52-59)					
Finance, Ins. & R. E. (SIC 60-67)					
Services (SIC 70-89)		1	1		1
Research & Development (SIC 73)		1	1		
Government (SIC 91 & 92)					
Not Known			1	3	26
Total	-1	2	36	11	29
Value of Contracts (In $000'S)	-12	26	1,741	268	31

ESTIMATED DEFENSE GENERATED EMPLOYMENT
IN ST. MARY'S COUNTY: (1965-1969)

Industry	1965	1966	1967	1968	1969
Agri., For., Fish. (SIC 01 & 07)					
Contract Construction (SIC 15-17)	3	9	1	10	94
Manufacturing (Subtotal)	12	9		3	35
19 Ord. & Acces.		1			
20 Food & Kind. Prod.	2	1			
22 Textile Mill Prod.					
23 Apparel & Fin. Prod.					31
24 Lumb. & Wood Prod.					
25 Furn. & Fix.					
26 Paper & Paper Prod.					
27 Prtg., Pub., etc.					
28 Chemicals, etc.					
29 Petr. Refining					
30 Rub. & Misc. Plas. Prod.					
31 Leath. & L. Prod.					
32 Stone, Clay & Glass	3			1	
33 Primary Metals					
34 Fab. Metal Prod.					
35 Mach. except Elec.					
36 Elec. Mach.		1			1
37 Transp. Equip.	3	2			1
38 Instruments	4	4		2	2
39 Misc. Mfg.					
Trans., Comm. & Utilities (SIC 40-49)	1	5			
Wholesale Trade (SIC 50)	19			8	6
Retail Trade (SIC 52-59)	10	4		83	20
Finance, Ins. & R. E. (SIC 60-67)					
Services (SIC 70-89)	10	11		19	14
Research & Development (SIC 73)	5	6		11	10
Government (SIC 91 & 92)					
Not Known	16	35		153	
Total	71	73	1	276	169
Value of Contracts (In $000'S)	1,936	2,426	24	7,031	9,050

ESTIMATED DEFENSE GENERATED EMPLOYMENT
IN SOMERSET COUNTY: (1965-1969)

Industry	1965	1966	1967	1968	1969
Agri., For., Fish. (SIC 01 & 07)			1		1
Contract Construction (SIC 15-17)					
Manufacturing (Subtotal)	68	98	72	15	
19 Ord. & Acces.					
20 Food & Kind. Prod.	3	5	1	1	
22 Textile Mill Prod.					
23 Apparel & Fin. Prod.	65	93	71	14	
24 Lumb. & Wood Prod.					
25 Furn. & Fix.					
26 Paper & Paper Prod.					
27 Prtg., Pub., etc.					
28 Chemicals, etc.					
29 Petr. Refining					
30 Rub. & Misc. Plas. Prod.					
31 Leath. & L. Prod.					
32 Stone, Clay & Glass					
33 Primary Metals					
34 Fab. Metal Prod.					
35 Mach. except Elec.					
36 Elec. Mach.					
37 Transp. Equip.					
38 Instruments					
39 Misc. Mfg.					
Trans., Comm. & Utilities (SIC 40-49)					
Wholesale Trade (SIC 50)					
Retail Trade (SIC 52-59)					
Finance, Ins. & R. E. (SIC 60-67)					
Services (SIC 70-89)					
Research & Development (SIC 73)					
Government (SIC 91 & 92)					
Not Known		3	1	3	
Total	68	101	74	18	1
Value of Contracts (In $000'S)	799	1,289	1,148	370	713

ESTIMATED DEFENSE GENERATED EMPLOYMENT
IN TALBOT COUNTY: (1965-1969)

Industry	1965	1966	1967	1968	1969
Agri., For., Fish. (SIC 01 & 07)				1	1
Contract Construction (SIC 15-17)	1				
Manufacturing (Subtotal)	27	41	1	16	8
19 Ord. & Acces.					
20 Food & Kind. Prod.	27	39	1	16	7
22 Textile Mill Prod.					
23 Apparel & Fin. Prod.					
24 Lumb. & Wood Prod.					
25 Furn. & Fix.					
26 Paper & Paper Prod.					
27 Prtg., Pub., etc.					
28 Chemicals, etc.		2			
29 Petr. Refining					
30 Rub. & Misc. Plas. Prod.					
31 Leath. & L. Prod.					
32 Stone, Clay & Glass					
33 Primary Metals					
34 Fab. Metal Prod.					
35 Mach. except Elec.					
36 Elec. Mach.					
37 Transp. Equip.					
38 Instruments					
39 Misc. Mfg.					
Trans., Comm. & Utilities (SIC 40-49)					
Wholesale Trade (SIC 50)					
Retail Trade (SIC 52-59)		-1			
Finance, Ins. & R. E. (SIC 60-67)					
Services (SIC 70-89)					1
Research & Development (SIC 73)					1
Government (SIC 91 & 92)					
Not Known					
Total	28	40	1	17	10
Value of Contracts (In $000'S)	990	1,548	22	923	512

ESTIMATED DEFENSE GENERATED EMPLOYMENT
IN WASHINGTON COUNTY: (1965-1969)

Industry	1965	1966	1967	1968	1969
Agri., For., Fish. (SIC 01 & 07)	1	1	1	1	2
Contract Construction (SIC 15-17)	9		9	7	5
Manufacturing (Subtotal)	44	277	741	1,218	529
19 Ord. & Acces.	-12				
20 Food & Kind. Prod.				1	1
22 Textile Mill Prod.					
23 Apparel & Fin. Prod.	2				
24 Lumb. & Wood Prod.					
25 Furn. & Fix.					1
26 Paper & Paper Prod.					
27 Prtg., Pub., etc.			1		3
28 Chemicals, etc.					
29 Petr. Refining	1			1	1
30 Rub. & Misc. Plas. Prod.	1				
31 Leath. & L. Prod.					
32 Stone, Clay & Glass					
33 Primary Metals					
34 Fab. Metal Prod.	1	2	5	11	3
35 Mach. except Elec.	5	89	160	422	135
36 Elec. Mach.		54	12	1	1
37 Transp. Equip.	44	131	552	774	382
38 Instruments			10	8	2
39 Misc. Mfg.	2	1			
Trans., Comm. & Utilities (SIC 40-49)	2		1	3	3
Wholesale Trade (SIC 50)	1		1		
Retail Trade (SIC 52-59)	1				2
Finance, Ins. & R. E. (SIC 60-67)					
Services (SIC 70-89)			3	3	17
Research & Development (SIC 73)				3	16
Government (SIC 91 & 92)					
Not Known	1		34	12	1
Total	59	278	790	1,244	559
Value of Contracts (In $000'S)	2,443	8,649	27,120	41,176	20,142

ESTIMATED DEFENSE GENERATED EMPLOYMENT
IN WICOMICO COUNTY: (1965-1969)

Industry	1965	1966	1967	1968	1969
Agri., For., Fish. (SIC 01 & 07)		2	1	1	1
Contract Construction (SIC 15-17)					
Manufacturing (Subtotal)	6	11	-49	5	7
19 Ord. & Acces.			-60		
20 Food & Kind. Prod.	3	8	8	2	7
22 Textile Mill Prod.					
23 Apparel & Fin. Prod.					
24 Lumb. & Wood Prod.					
25 Furn. & Fix.					
26 Paper & Paper Prod.					
27 Prtg., Pub., etc.					
28 Chemicals, etc.					
29 Petr. Refining					
30 Rub. & Misc. Plas. Prod.					
31 Leath. & L. Prod.					
32 Stone, Clay & Glass					
33 Primary Metals	1	1	1	1	
34 Fab. Metal Prod.	1	1	1	1	
35 Mach. except Elec.	1	1	1	1	
36 Elec. Mach.					
37 Transp. Equip.					
38 Instruments					
39 Misc. Mfg.					
Trans., Comm. & Utilities (SIC 40-49)					
Wholesale Trade (SIC 50)	1				
Retail Trade (SIC 52-59)					
Finance, Ins. & R. E. (SIC 60-67)					
Services (SIC 70-89)			1		
Research & Development (SIC 73)					
Government (SIC 91 & 92)					
Not Known		3	1		
Total	7	13	-46	6	8
Value of Contracts (In $000'S)	101	387	-877	241	465

ESTIMATED DEFENSE GENERATED EMPLOYMENT
IN WORCESTER COUNTY: (1965-1969)

Industry	1965	1966	1967	1968	1969
Agri., For., Fish. (SIC 01 & 07)					
Contract Construction (SIC 15-17)	2	3			
Manufacturing (Subtotal)	10	17	12	2	5
19 Ord. & Acces.					
20 Food & Kind. Prod.	6	14	8	2	1
22 Textile Mill Prod.					
23 Apparel & Fin. Prod.					
24 Lumb. & Wood Prod.					
25 Furn. & Fix.					
26 Paper & Paper Prod.					
27 Prtg., Pub., etc.	4	3	4		4
28 Chemicals, etc.					
29 Petr. Refining					
30 Rub. & Misc. Plas. Prod.					
31 Leath. & L. Prod.					
32 Stone, Clay & Glass					
33 Primary Metals					
34 Fab. Metal Prod.					
35 Mach. except Elec.					
36 Elec. Mach.					
37 Transp. Equip.					
38 Instruments					
39 Misc. Mfg.					
Trans., Comm. & Utilities (SIC 40-49)					
Wholesale Trade (SIC 50)					
Retail Trade (SIC 52-59)			1	3	
Finance, Ins. & R. E. (SIC 60-67)					
Services (SIC 70-89)					
Research & Development (SIC 73)					
Government (SIC 91 & 92)					
Not Known		3	2	2	
Total	12	23	15	7	5
Value of Contracts (In $000'S)	438	758	505	351	131

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